SONY

HD STUDIO BUILD-UP UNIT

# HKCA-700

HDVS

MAINTENANCE MANUAL
1st Edition (Revised 1)
Serial No. 10001 and Higher

## ⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理など行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

## ⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

## ⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

## ⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

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# Manual Structure

## Purpose of this manual

This manual is the maintenance manual for HD Studio Build-up Unit HKCA-700. This manual describes the information items necessary when the unit is supplied and installed, items on maintenance, and items that premise the service based on the components parts such as alignment, schematic diagrams, board layouts and spare parts list, assuming use of system and service engineers.

## Contents

The following are summaries of the each section for understanding the manual.

### Section 1. Installation

Describes information about connector input/output signals and function of internal switches.

### Section 2. Service Overview

Describes information about board locations, replacement of part and notes on services.

### Section 3. Spare Parts

Describes parts list, exploded views, supplied accessories and fixtures list used in the unit.

### Section 4. Semiconductor Pin Assignments

Describes function diagrams and pin names of semiconductor used in the unit.

### Section 5. Block Diagram

Describes overall block diagram and the block diagrams for every circuit board.

### Section 6. Board Layouts

Describes board layouts for every circuit board.

### Section 7. Schematic Diagrams

Describes schematic diagrams for every circuit board.

## Relative manual

Besides this maintenance manual the following manual is available for this unit.

- **Operation Manual (Supplied with this unit)**
  This manual is necessary for application and operation of this unit.

# Section 1
# Installation

## 1-1. Supplied Accessories

| Accessories | Sony P/N | Q'ty |
|---|---|---|
| Tripod adaptor *1 | A-8273-759-A | 1 |
| Connection cord (4P) | 1-777-290-11 | 1 |
| Angle adjustment brackets | 2-280-511-01 | 2 |
| Number plates | 3-185-945-01 | 2 |
| Clamp bands | 3-186-502-01 | 2 |
| Allen wrench (across 3 mm) *2 | 7-721-130-54 | 1 |
| Allen wrench (across 4 mm) *3 | 7-721-130-55 | 1 |
| Operation manual | — | 1 |
| Maintenance manual | — | 1 |

*1 : The tripod adaptor is exclusive to HKCA-700. VCT-13/14 tripod adaptor cannot be attached to the unit.
*2 : Use to fix the tripod adaptor to the build-up assembly (upper) when using the build-up assembly (upper) alone.
*3 : Use when detaching the build-up assembly (upper) from the unit.

## 1-2. Connectors and Cables

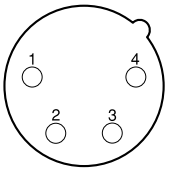
### 1-2-1. Connector Input/Output Signals

**Output Signals**

- TEST OUT
  BNC type 75Ω, 1.0 Vp-p

- PROMPTER
  BNC type 75Ω, 1.0 Vp-p

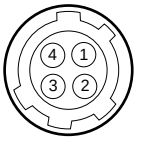
DC IN (4P MALE)




(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | GND | —— | GND for DC (+) |
| 2 | NC | | No connection |
| 3 | NC | | No connection |
| 4 | DC (+) | IN | +10.5 to 17 Vdc |

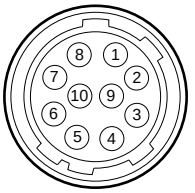
SCRIPT (4P FEMALE)




(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | GND | —— | GND for POWER |
| 2 | NC | | No connection |
| 3 | NC | | No connection |
| 4 | +12 V | OUT | +12 Vdc 500 mA (max) |

## TRACKER (10P FEMALE)

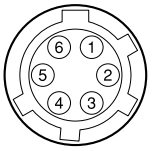



(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | TRACKER (X) | OUT | TRACKER RECEIVE<br>0 dBu unbalanced |
| 2 | TRACKER T (G) | —— | GND for TRACKER T |
| 3 | TRACKER R (G) | —— | GND for TRACKER R |
| 4 | PGM (X) | OUT | –20 dBu unbalanced |
| 5 | +12 V (T) | OUT | +12 Vdc 100 mA (max) |
| 6 | PGM (G) | —— | GND for PGM |
| 7 | TRACKER T (X) | IN | TRACKER TALK |
| 8 | TRACKER T (Y) | IN | 0 dBu/–20 dBu<br>High impedance balanced |
| 9 | UP TALLY (G) | —— | GND for UP TALLY |
| 10 | UP TALLY (X) | OUT | +12 Vdc 200 mA (max) |

(0 dBu = 0.775 Vrms)

## RET CONT (6P FEMALE)



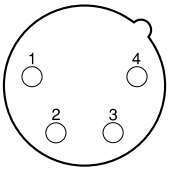

(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | INCOM 1<br>MIC ON/OFF | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : OPEN |
| 2 | INCOM 2<br>MIC ON/OFF | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : OPEN |
| 3 | GND | —— | |
| 4 | RET 3 ON/OFF | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : OPEN |
| 5 | RET 1 ON/OFF | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : OPEN |
| 6 | RET 2 ON/OFF | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : OPEN |

## INCOM1

**(Serial No.: 10001 through 11000, 13001 and Higher)**

(4P MALE)



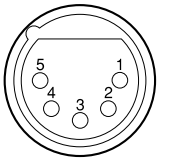

(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | INCOM MIC (Y) | IN | –20 dBu (CARBON MIC) |
| 2 | INCOM MIC (X) | IN | –60 dBu (DYNAMIC MIC) |
| 3 | GND | —— | |
| 4 | INCOM RECEIVE | OUT | 0 dBu |

(0 dBu = 0.775 Vrms)

**(Serial No.: 11001 through 13000)**

(5P FEMALE)




(EXTERNAL VIEW)

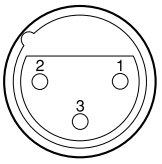
| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | INCOM MIC (Y) | IN | –20 dBu (CARBON MIC) |
| 2 | INCOM MIC (X) | IN | –60 dBu (DYNAMIC MIC) |
| 3 | GND (PGM) | —— | |
| 4 | INCOM RECEIVE | OUT | 0 dBu |
| 5 | PGM | OUT | 0 dBu |

(0 dBu = 0.775 Vrms)

## INCOM 2

**(Serial No.: 10001 through 11000, 13001 and Higher)**

(3P FEMALE)

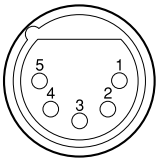



(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | GND | —— | GND |
| 2 | RTS POWER | OUT | +30 V, 0.4 A (max) |
| 3 | CLEARCOM | IN/OUT | 0.4 Vp-p |

**(Serial No.: 11001 through 13000)**

(5P FEMALE)

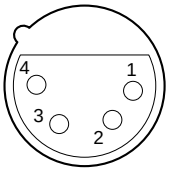



(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | INCOM MIC (Y) | IN | –20 dBu (CARBON MIC) |
| 2 | INCOM MIC (X) | IN | –60 dBu (DYNAMIC MIC) |
| 3 | GND (PGM) | —— | |
| 4 | INCOM RECEIVE | OUT | 0 dBu |
| 5 | PGM | OUT | 0 dBu |

(0 dBu = 0.775 Vrms)

## DC OUT (4P FEMALE)

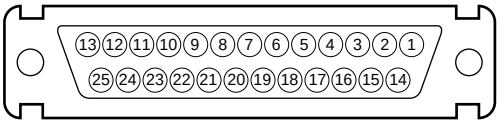



(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | GND | —— | GND for UNREG |
| 2 | NC | | No connection |
| 3 | NC | | No connection |
| 4 | EXT DC (T) | OUT | +10.5 to 17 Vdc, 6.5A (max) *Note |

*Note : Use to supply the DC power to HDCA-750.
It should be used only for its intended use.

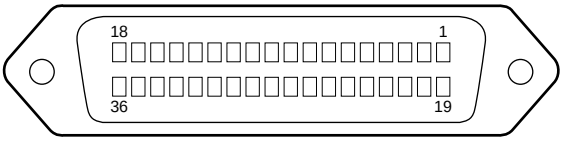
## VF (25P FEMALE)




(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | VIDEO | OUT | 1.0 Vp-p, Zo = 75 Ω |
| 2 | NC | | No connection |
| 3 | NC | | No connection |
| 4 | NC | | No connection |
| 5 | NC | | No connection |
| 6 | PEAKING LEVEL | IN | 0 to 5 Vdc |
| 7 | +12 V | OUT | +10.5 to +20 V |
| 8 | +12 V | | |
| 9 | NC | | No connection |
| 10 | S-DATA | IN | TTL level |
| 11 | R TALLY | OUT | ON : +5 V<br>OFF : 0 V |
| 12 | EFFECT | OUT | ON : +5 V<br>OFF : 0 V |
| 13 | NC | | No connection |
| 14 | VIDEO GND | —— | GND for VIDEO |
| 15 | S-CK | OUT | TTL level |
| 16 | BATT IND | OUT | ON : +5 V<br>OFF : 0 V |
| 17 | CHASSIS GND | —— | |
| 18 | G TALLY | OUT | ON : +5 V<br>OFF : 0 V |
| 19 | GND (+12 V) | —— | GND for +12 V |
| 20 | GND (+12 V) | | |
| 21 | VF-SEL | OUT | BW : 0V<br>COLOR : +5 V |
| 22 | H EXPAND | OUT | ON : GND<br>OFF : +5 V |
| 23 | NC | | No connection |
| 24 | NC | | No connection |
| 25 | V EXPAND | OUT | ON : GND<br>OFF : +5 V |

## LENS (36P FEMALE)




(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | NC | | No connection |
| 2 | COMMON 5 V | IN | No connection |
| 3 | NC | | No connection |
| 4 | +12 V (LENS) | OUT | +12 V (at 2 A) |
| 5 | LENS DC GND | —— | GND for +12 V (LENS) |
| 6 | GND (SIG) | —— | GND |
| 7 | NC | | No connection |
| 8 | LENS EXT-1 | IN | *2 |
| 9 | LENS EXT-2 | IN | *2 |
| 10 | LENS EXT-3 | IN | *2 |
| 11 | NC LENS AUX | OUT | ON : GND<br>OFF : High impedance |
| 12 | IRIS POSI | IN | Zi ≧ 10 kΩ<br>2 to 7 V<br>“3.4 ± 0.1 V (F16)”<br>“6.2 ± 0.1 V (F2.8)” |
| 13 | ZOOM POSI | IN | Zi ≧ 10 kΩ<br>2 to 7 V<br>“2 V (WIDE), 7 V (TELE)” |
| 14 | RET 1 $\overline{\text{ON}}$ | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : High impedance |
| 15 | RET 2 $\overline{\text{ON}}$ | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : High impedance |
| 16 | FOCUS POSI | IN | Zi ≧ 10 kΩ<br>2 to 7 V<br>“2 V(MIN), 7 V (∞)” |
| 17 | IRIS CONT SIG | OUT | 2 to 7 V<br>“3.4 ± 0.1 V (F16)”<br>“6.2 ± 0.1 V (F2.8)”<br>Zo ≦ 1 kΩ |
| 18 | IRIS $\overline{\text{AUTO}}$/MANU | OUT | AUTO : GND<br>MANU : High impedance<br>Zo ≦ 1 kΩ |

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 19 | NC | | No connection |
| 20 | NC | | No connection |
| 21 | LENS R TALLY | OUT | ON : GND<br>OFF : High impedance<br>Zo ≦ 1 kΩ |
| 22 | EXP POSITION | IN | Zi ≧ 10 kΩ<br>1 to 4 V<br>1 V : –7.5°<br>4 V : +7.5° |
| 23 | RET 3 $\overline{\text{ON}}$ | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : High impedance |
| 24 | LENS ADRS 0 | IN | *1 |
| 25 | LENS ADRS 1 | IN | *1 |
| 26 | LENS ADRS 2 | IN | *1 |
| 27 | LENS ADRS 3 | IN | *1 |
| 28 | EXTENDER 1 $\overline{\text{ON}}$ | OUT | ON : GND<br>OFF : High impedance |
| 29 | EXTENDER 2 $\overline{\text{ON}}$ | OUT | ON : GND<br>OFF : High impedance |
| 30 | F DEM(FAR) | IN | No connection |
| 31 | INCOM 1<br>$\overline{\text{ENG}}$/PRD | IN | Zi ≧ 10 kΩ<br>ENG : GND<br>PRD : High impedance |
| 32 | INCOM 2<br>$\overline{\text{ENG}}$/PROD | IN | Zi ≧ 10 kΩ<br>ENG : GND<br>PRD : High impedance |
| 33 | INCOM MIC 1 $\overline{\text{ON}}$ | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : High impedance |
| 34 | INCOM MIC 2 $\overline{\text{ON}}$ | IN | Zi ≧ 10 kΩ<br>ON : GND<br>OFF : High impedance |
| 35 | F CONT SIG | OUT | No connection |
| 36 | F DEM (NEAR) | IN | No connection |

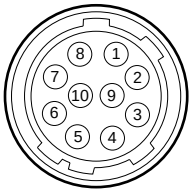
∗1 Zi ≧ 10 kΩ
1 : High impedance
0 : 0 $^{+0.5}_{-0}$ V

LENS ADRS 0 (low-order bit)
LENS ADRS 3 (high-order bit)

∗2 Zi ≧ 10 kΩ
1 : High impedance
0 : 0 ± 0.5 V

| EX1 | EX2 | EX3 | MODE |
|---|---|---|---|
| 1 | 1 | 1 | EXTENDER OFF |
| 1 | 0 | 1 | EXT-1 (× 1.5) ON |
| 0 | 1 | 1 | EXT-2 (× 2) ON |
| 0 | 0 | 1 | EXT-3 (× 2.5) ON |

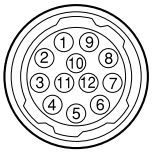
## LENS POWER (10P FEMALE)




(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | +12 V | OUT | +12 Vdc 1.5 A (max) |
| 2 | GND | —— | GND for POWER |
| 3 | NC | | No connection |
| 4 | NC | | No connection |
| 5 | NC | | No connection |
| 6 | NC | | No connection |
| 7 | NC | | No connection |
| 8 | VTR ON/OFF | IN | Zi ≧ 10 kΩ,<br>ON : GND, OFF : OPEN |
| 9 | RET 1 ON/OFF | IN | Zi ≧ 10 kΩ,<br>ON : GND, OFF : OPEN |
| 10 | RET/VTR GND | —— | GND for RET/VTR |

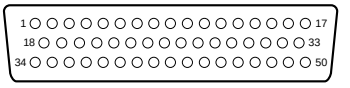
## LENS (12P MALE)




(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | RET VIDEO ENABLE | OUT | ENABLE : 0 V<br>DISABLE : +5 V or OPEN |
| 2 | VTR START /STOP | OUT | ENABLE : 0 V<br>DISABLE : +5 V or OPEN |
| 3 | GND | —— | GND for UNREG |
| 4 | AUTO SERVO | IN | AUTO : +5 V<br>MANU : 0 V or OPEN |
| 5 | IRIS CONT | IN | +3.4 V (F16) to<br>+6.2 V (F2.8) |
| 6 | UNREG | IN | +10.5 V to +17 V |
| 7 | IRIS POSITION | OUT | +3.4 V (F16) to<br>+6.2 V (F2.8) |
| 8 | AUTO/MANU | IN | AUTO IRIS : 0 V<br>MANUAL IRIS : +5 V |
| 9 | EXTENDER ON/OFF | OUT | EX 2 ON : 0 V<br>EX 0.8 ON : +3.8 V<br>OFF : +4.8 V |
| 10 | ZOOM POSITION | OUT | WIDE : 2 V<br>TELE : 7 V |
| 11 | LENS RX | OUT | Serial data for HKCA-700 |
| 12 | LENS TX | IN | |

## CA (50P MALE)




(EXTERNAL VIEW)

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 1 | NC | | No connection |
| 2 | NC | | No connection |
| 3 | NC | | No connection |
| 4 | NC | | No connection |
| 5 | NC | | No connection |
| 6 | NC | | No connection |
| 7 | GND | —— | |
| 8 | TEST | IN | 1.0 Vp-p, Zi = 75 Ω |
| 9 | CA VF VIDEO GND | —— | GND for CA VF VIDEO |
| 10 | CA VF VIDEO | IN | 1.0 Vp-p, Zi = 75 Ω |
| 11 | VD | IN | Negative pulse, 5.0 Vp-p, Low impedance |
| 12 | TRACKER T (X) | OUT | 0/−20 dBu selectable |
| 13 | TRACKER R/ PGM GND | —— | GND for TRACKER R/PGM |
| 14 | INCOM 1 T (X) | OUT | −20 dBu (CARBON MIC) |
| 15 | INCOM 2 T (X) | OUT | −60 dBu (DYNAMIC MIC) |
| 16 | INCOM 1 R/ PGM 1 GND | —— | GND for INCOM 1 R/PGM |
| 17 | INCOM 2 R/ PGM 2 GND | —— | GND for INCOM 2 R/PGM |
| 18 | NC | | No connection |
| 19 | AC (H) | IN | AC 240 V |
| 20 | NC | | No connection |
| 21 | AC (C) | IN | AC 240 V |
| 22 | NC | | No connection |
| 23 | NC | | No connection |
| 24 | PANEL DATA | OUT | PANEL → CHU SERIAL DATA |
| 25 | PANEL DATA | IN | CHU → PANEL SERIAL DATA |

| No. | Signal | I/O | Specifications |
|---|---|---|---|
| 26 | NC | | No connection |
| 27 | CALL $\overline{\text{ON}}$ | OUT | H : OFF, L : ON |
| 28 | TRACKER T (Y) | OUT | −20 dBu |
| 29 | TRACKER PGM | IN | −20 dBu |
| 30 | INCOM 1 T (Y) | OUT | −20 dBu (CARBON MIC) |
| 31 | INCOM 2 T (Y) | OUT | −60 dBu (DYNAMIC MIC) |
| 32 | PGM 1 (X) | IN | 0 dBu |
| 33 | PGM 2 (X) | IN | |
| 34 | NC | | No connection |
| 35 | NC | | No connection |
| 36 | NC | | No connection |
| 37 | NC | | No connection |
| 38 | NC | | No connection |
| 39 | NC | | No connection |
| 40 | VF POWER OFF | IN | H : ON, L : OFF |
| 41 | MAIN POWER ON/OFF | IN | +8V : ON, GND : OFF |
| 42 | QTV GND | —— | GND for QTV |
| 43 | QTV | IN | 1.0 Vp-p, 75 Ω |
| 44 | STBY DC (+) | IN | +6.0 Vdc |
| 45 | TRACKER T GND | —— | GND for TRACKER T |
| 46 | TRACKER R | IN | −20 dBu |
| 47 | INCOM 1 T GND | —— | GND for INCOM 1 |
| 48 | INCOM 2 T GND | —— | GND for INCOM 2 |
| 49 | INCOM 1 R (X) | IN | 0 dBu |
| 50 | INCOM 2 R (X) | IN | |

(0 dBu = 0.775 Vrms)

## 1-2-2. Connection Connectors

Connection made with the connector panels during installation or service, should be made with the connectors/complete cable assemblies specified in the following list, or equivalent parts.

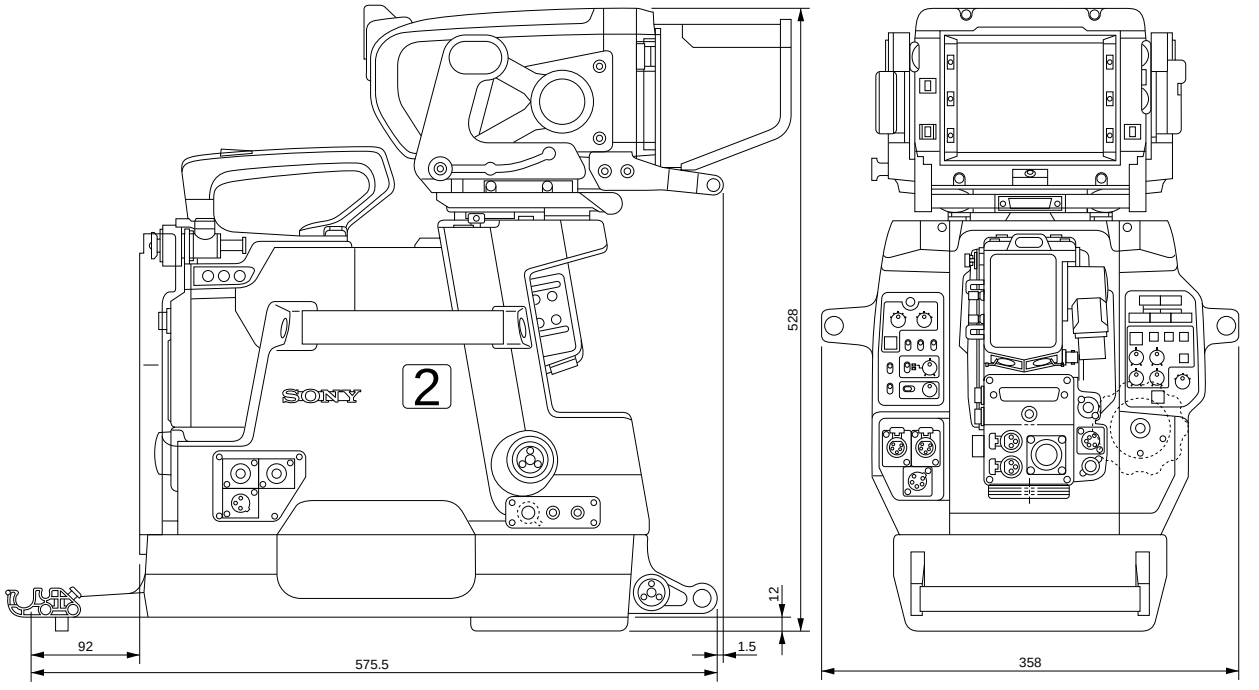
* **Serial No.: 10001 through 11000, 13001 and Higher**

| Connector Name | Connection Connectors/Cables |
|---|---|
| MONITOR<br>PROMPTER (BNC) | 1-564-742-11 Plug, BNC or<br>B-B Cable assembly (1.5 m, Option) |
| TRACKER<br>LENS POWER<br>(10P FEMALE) | 1-506-522-11 Plug, 10P Male or<br>HIROSE HR10R-10P-10P equivalent |
| RET CONT<br>(6P FEMALE) | 1-560-078-00 Plug, 6P Male or<br>HIROSE HR10-7PA-6P equivalent |
| SCRIPT<br>(4P FEMALE) | 1-566-425-11 Plug, 4P Male or<br>HIROSE HR10A-7P-4P equivalent |
| DC IN<br>INCOM 1<br>(4P MALE) | 1-508-362-00 XLR, 4P Female or<br>CANNON XLR-4-11C equivalent<br>Cable assembly (for DC IN, supplied with AC-550) 1-551-577-00 |
| INCOM 2<br>(3P FEMALE) | 1-508-084-00 XLR, 3P Male or<br>CANNON XLR-3-12C equivalent |
| DC OUT<br>(4P FEMALE) | 1-508-369-00 XLR, 4P Male or<br>CANNON XLR-4-12C equivalent |

* **Serial No.: 11001 through 13000**

| Connector Name | Connection Connectors/Cables |
|---|---|
| MONITOR<br>PROMPTER (BNC) | 1-564-742-11 Plug, BNC or<br>B-B Cable assembly (1.5 m, Option) |
| TRACKER<br>LENS POWER<br>(10P FEMALE) | 1-506-522-11 Plug, 10P Male or<br>HIROSE HR10R-10P-10P equivalent |
| RET CONT<br>(6P FEMALE) | 1-560-078-00 Plug, 6P Male or<br>HIROSE HR10-7PA-6P equivalent |
| SCRIPT<br>(4P FEMALE) | 1-566-425-11 Plug, 4P Male or<br>HIROSE HR10A-7P-4P equivalent |
| DC IN<br>(4P MALE) | 1-508-362-00 XLR, 4P Female or<br>CANNON XLR-4-11C equivalent<br>Cable assembly (Supplied with AC-550)<br>1-551-577-00 |
| INCOM 1/2<br>(5P FEMALE) | 1-508-370-11 XLR, 5P Male or<br>CANNON XLR-5-12C equivalent |
| DC OUT<br>(4P FEMALE) | 1-508-369-00 XLR, 4P Male or<br>CANNON XLR-4-12C equivalent |

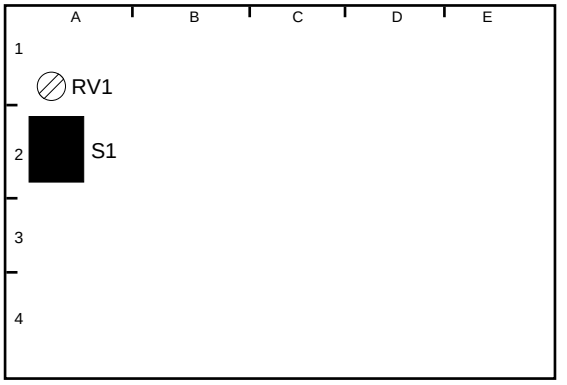
## 1-3. Outside Dimentions




(Unit : mm)

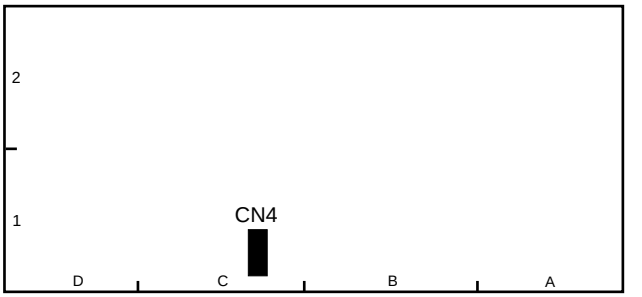
# 1-4. Function of Internal Switches/Controls

### AT-104 Board




AT-104 BOARD (A SIDE)

### PS-401 Board




PS-401 BOARD (A SIDE)

**RV1 : Not used**

**S1**

**S1-1 : Selection of HDC-700 and HKCA-700**

ON : HDC-700

OFF (OPEN) : HKCA-700

Factory-set position : OFF

**Note**

In replacing the AT-104 board, be sure to set the switch S1-1 to the proper position according to the type of the camera.

**S1-2, S1-3, S1-4 : Not used**

**CN4 : Selection of HDCA-750 and HKCA-700**

Short : HKCA-700

Open : HDCA-750

Factory-set position : Short

**Note**

In replacing the PS-401 board, be sure to short-circuit CN4 with the short socket (P/N 1-562-579-21).

# Section 2
# Service Overview

## 2-1. Notes on Service

### 2-1-1. Notes on Repair Parts

**1. Safety Related Components Warning**

**WARNING**

Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

**2. Standardization of Parts**

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.
Parts list has the present standardized repair parts.

**3. Stock of Parts**

Parts marked with “o” at SP(Supply Code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

**4. Units Representation**

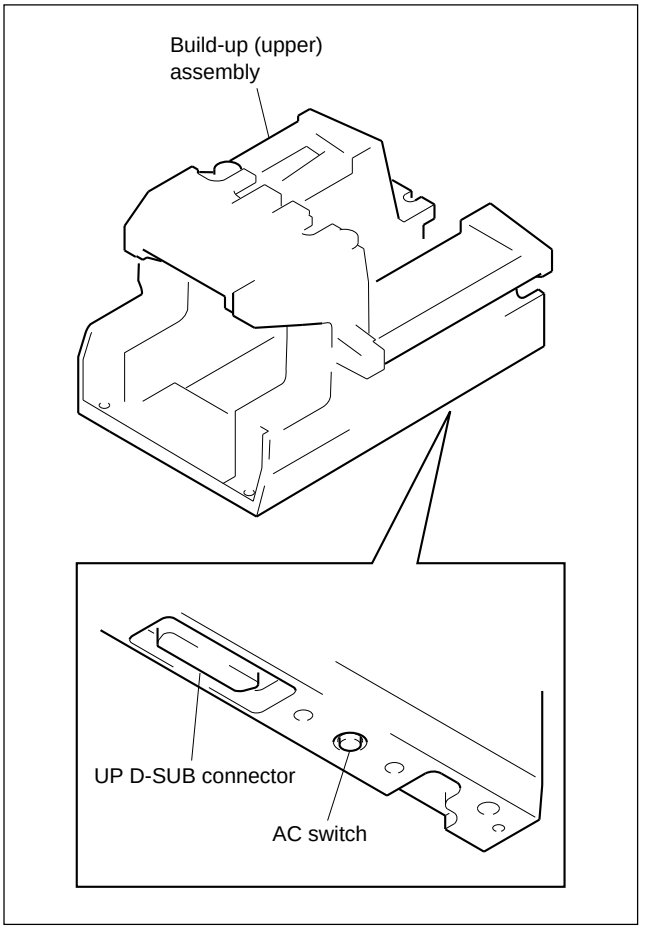
The following represented units are changed or omitted in writing.

| Units | | Representation |
|---|---|---|
| Capacitance | μF | uF |
| Inductance | μH | uH |
| Resistance | Ω | Abbreviation |
| Temperature | °C | XXX-DEG-C |

### 2-1-2. Note on AC Switch

**WARNING**

Do not push the AC switch as shown below during servicing if the build-up (upper) assembly is removed from the unit and the power is supplied from the HDCU-700A. If pushing the AC switch carelessly, you may get shock hazards by the passage of AC 240 V through the UP D-SUB connector.

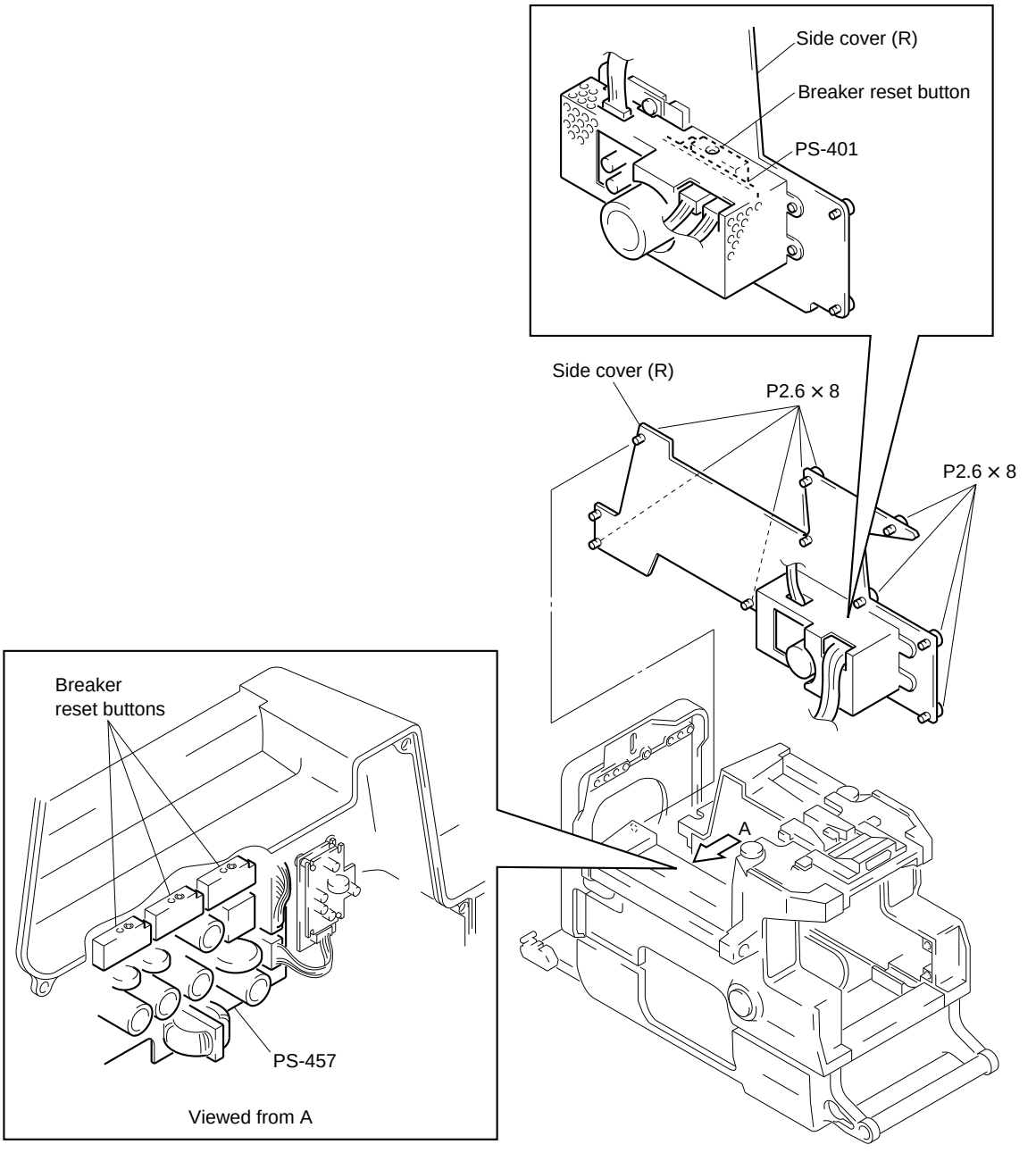


## 2-1-3. Reset of Breaker

**CAUTION**

If resetting the breaker with the power turned on, you may get shock hazards by the passage of AC 240 V through the peripheral boards. Turn off the power to the camera and the HDCU-700A before pressing the breaker reset buttons.

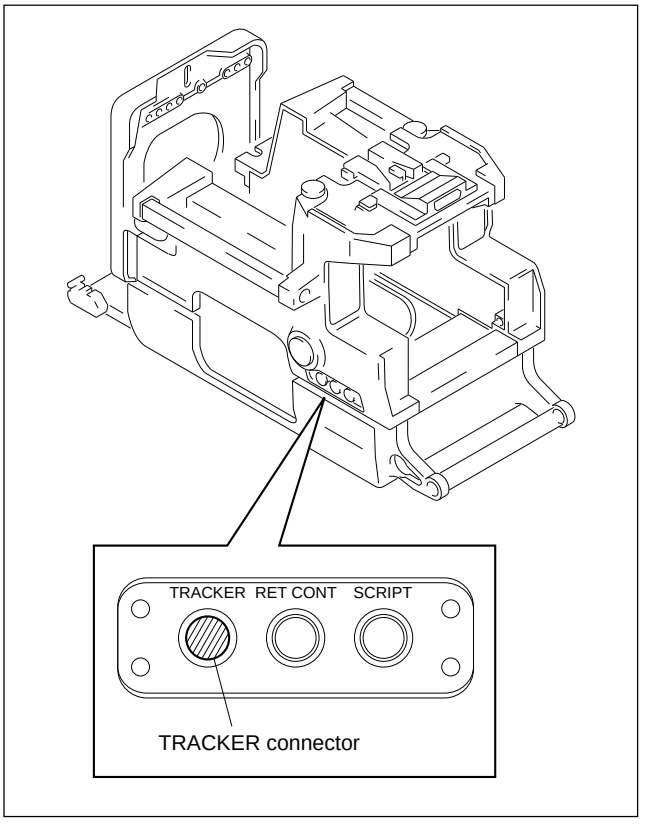
Excessive current in the internal circuitry will trip the internal circuit breaker regardless of causes. If the circuit breaker trips once, turn off the power to the camera and the HDCU-700A and check the circuit or block concerned, and then press the four breaker reset buttons as shown below.



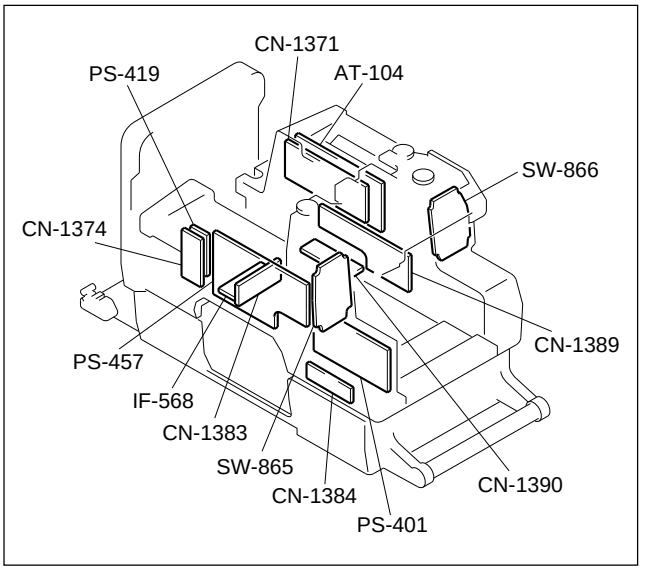
## 2-1-4. Note on LENS POWER Connector

**CAUTION**

The unit is provided with the same type connector (10P female) for the LENS POWER connector to supply the power to the lens and the TRACKER connector. If mating a cable which is to be connected to the LENS POWER connector with the TRACKER connector carelessly, the lens and camera will fail.

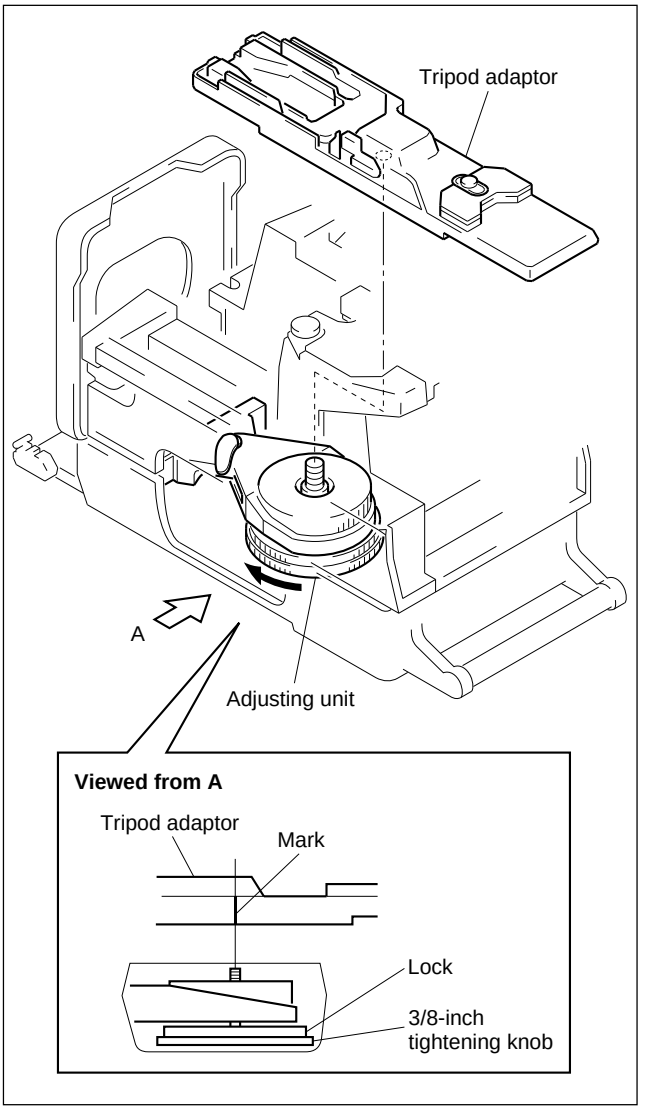



## 2-2. Location of Printed Circuit Boards



## 2-3. Removing the Tripod Adaptor

1. Release the lock of the adjusting unit and loosen the 3/8-inch tightening knob in the direction of the arrow.




**Note at installation**

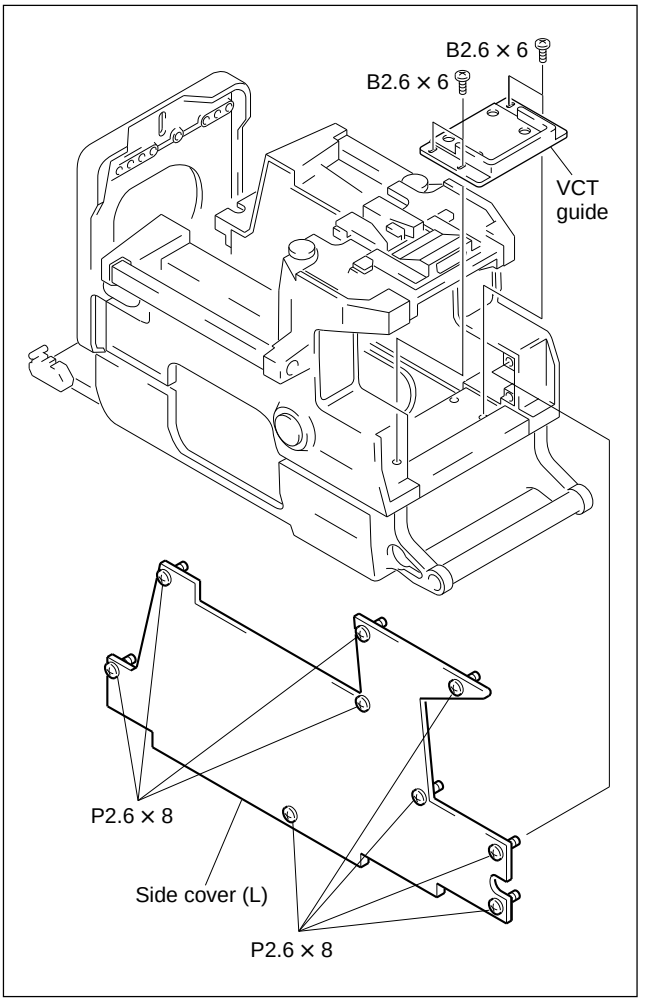
Insert the screw of adjusting unit into the screw hole at marked position on the tripod adaptor and tighten it.

## 2-4. Removing the Side Covers

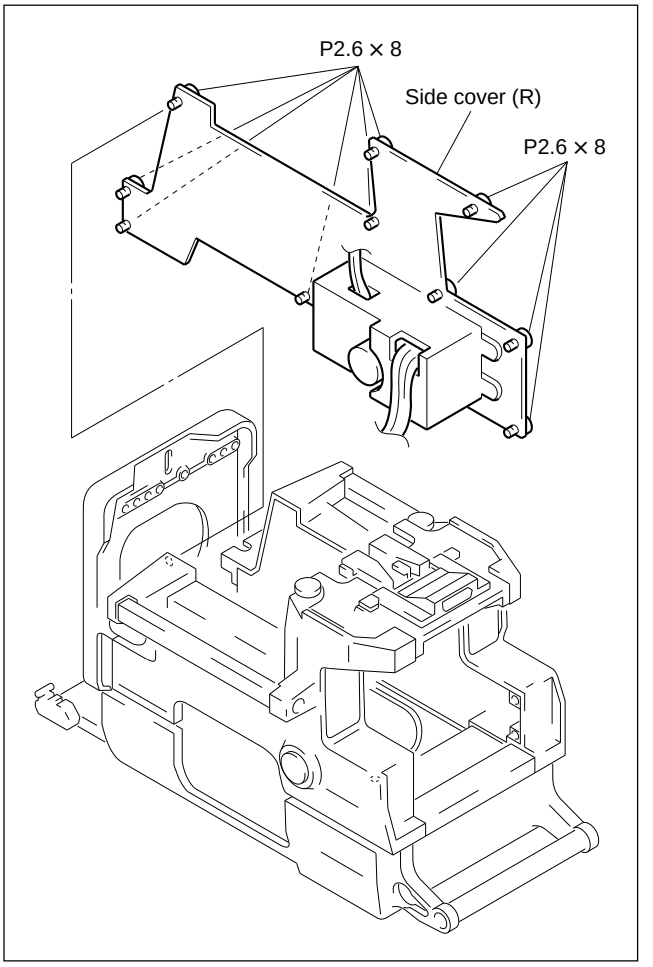
**Note**

To remove the side cover, a screwdriver with short grip is required.

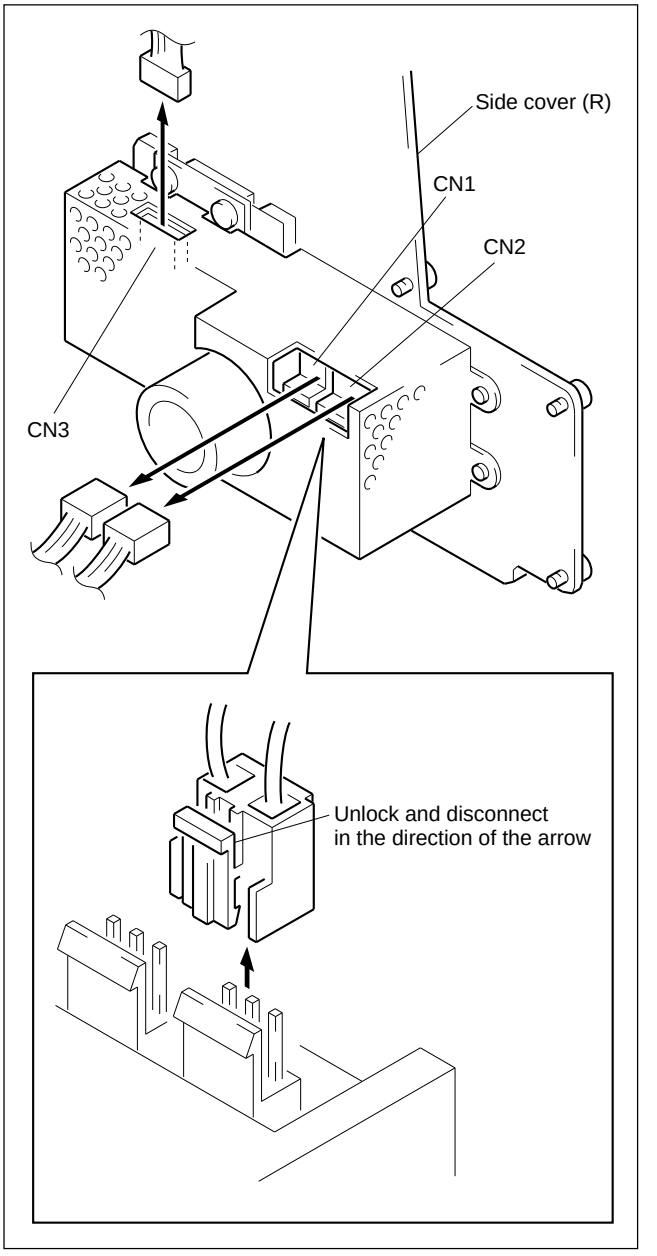
1. Remove the tripod adaptor referring to Section 2-3.
2. Remove the four screws (B2.6 × 6) to remove the VCT guide.
3. To remove the side cover (L)
   Loosen the nine screws (P2.6 × 8) securing the side cover (L).



4. To remove the side cover (R)
   Loosen the ten screws (P2.6 × 8) securing the side cover (R).

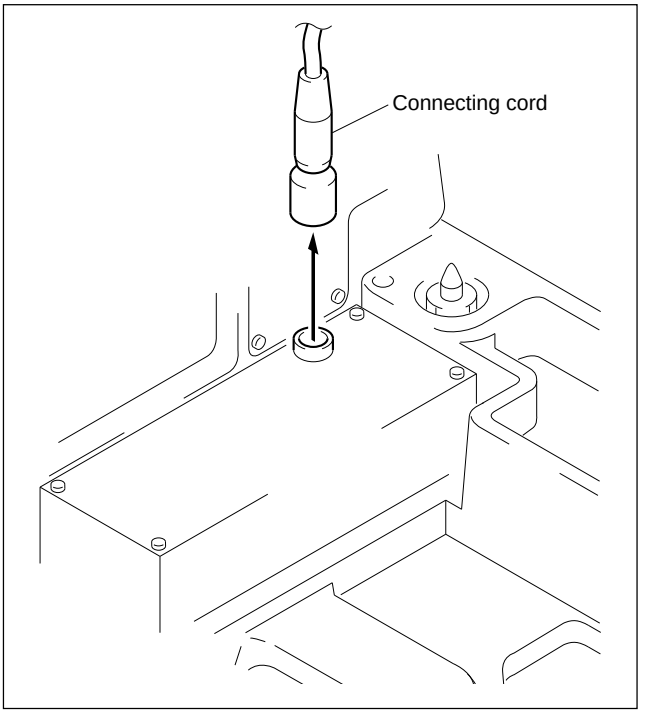



5. Disconnect the three connectors CN1, CN2, and CN3 from the PS-401 board.

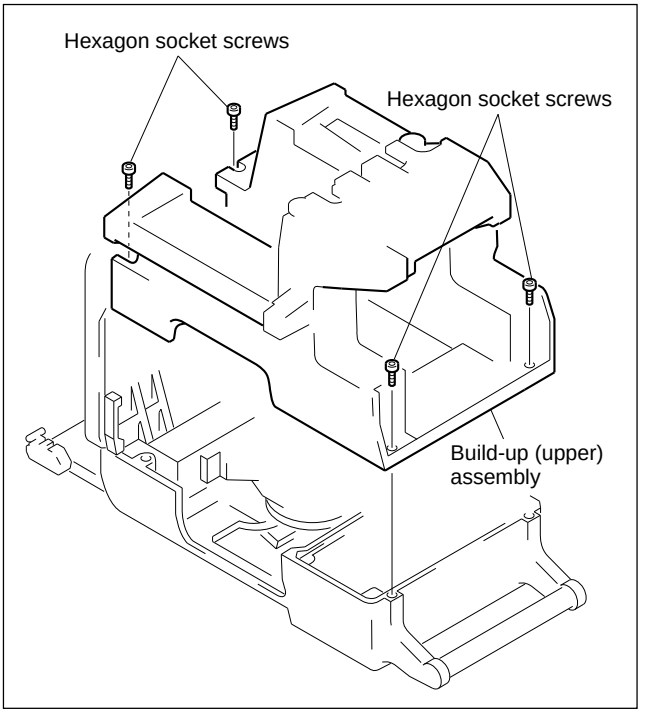


## 2-5. Removing the Build-Up (Upper) Assembly

1. Remove the tripod adaptor referring to Section 2-3.
2. Pull the tip of the plug in the direction of the arrow to disconnect the connecting cord.

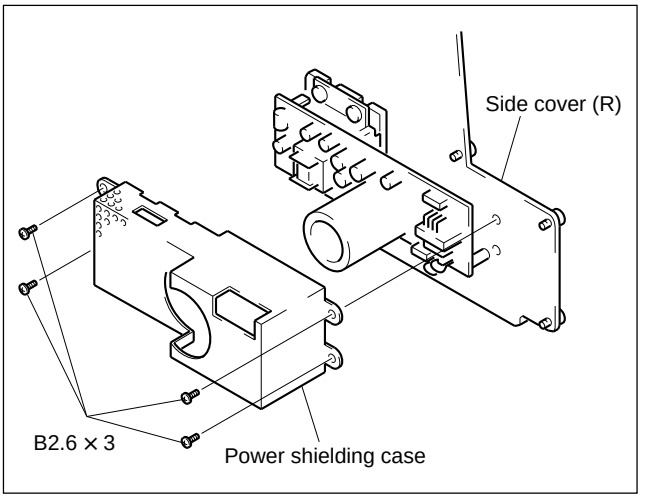



3. Loosen the four hexagon socket screws by an Allen wrench (width across flats: 4.0 mm) to remove the build-up (upper) assembly.

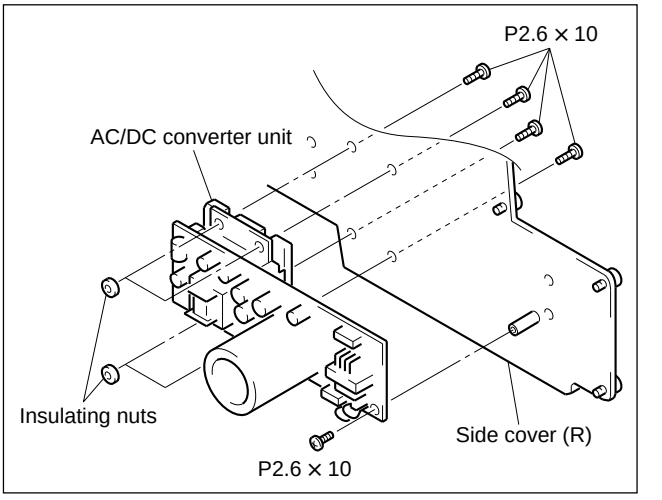



## 2-6. Replacing the AC/DC Converter Unit (PS-401 Board)

1. Remove the side cover (R) referring to Section 2-4.
2. Remove the four screws (B2.6 × 3) to remove the power shielding case.



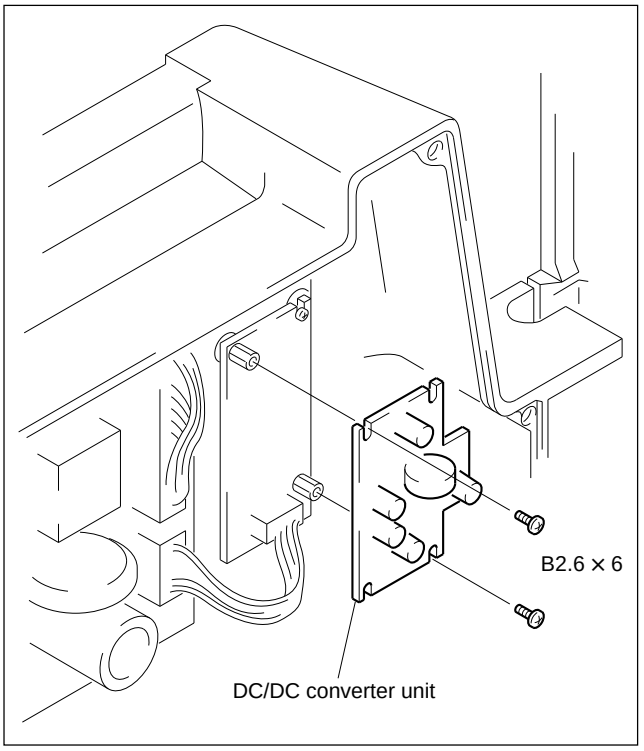

3. Remove the five screws (P2.6 × 10) to remove the AC/DC converter unit. Remove the four insulating nuts.




4. Check that CN4 on a new PS-401 board is shorted by a short socket. For details, refer to Section 1-4.
5. Install a new AC/DC converter unit in the reverse order of Steps 1 to 3.

## 2-7. Replacing the DC/DC Converter Unit (PS-419 Board)

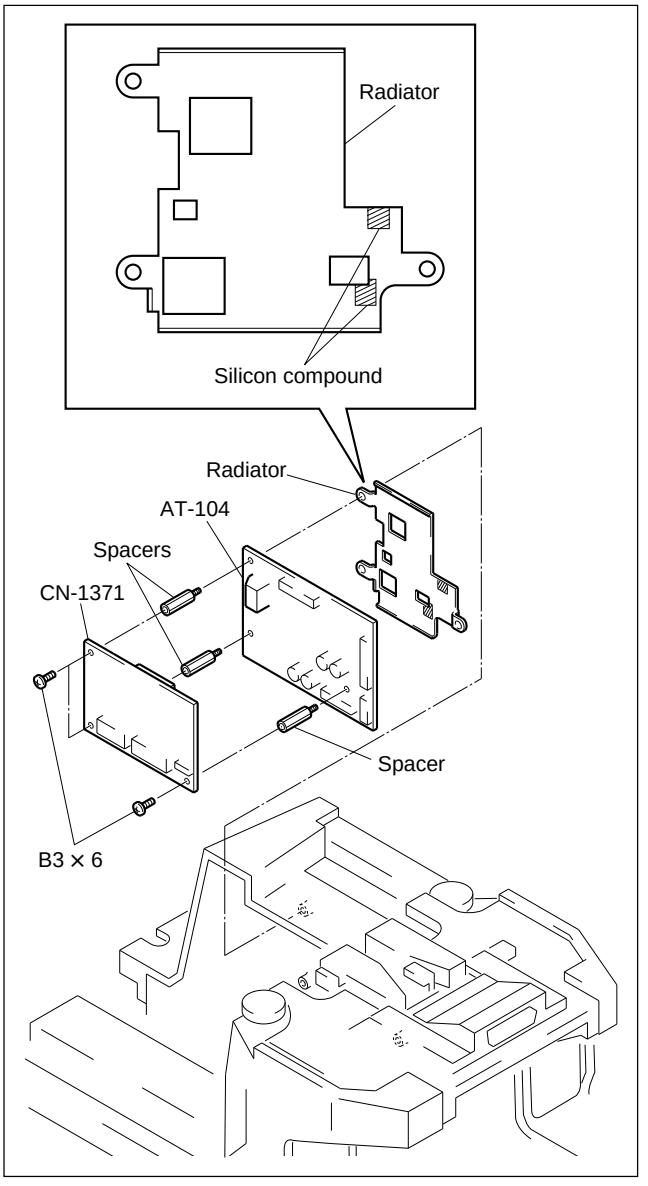
1. Remove the side cover (L) referring to Section 2-4.
2. Remove the two screws (B2.6 × 6) to remove the DC/DC converter unit.




3. Install a new DC/DC converter unit in the reverse order of removal.

## 2-8. Replacing the AT-104 Board

1. Remove the side cover (L) referring to Section 2-4.
2. Remove the three screws to remove the CN-1371 board.
3. Remove the three spacers to remove the AT-104 board.
4. After replacement, apply a light coating of silicon compound to two spots on the radiator as shown below.
   Recommended silicon : Silicon compound
   (Sony P/N 7-662-006-02)



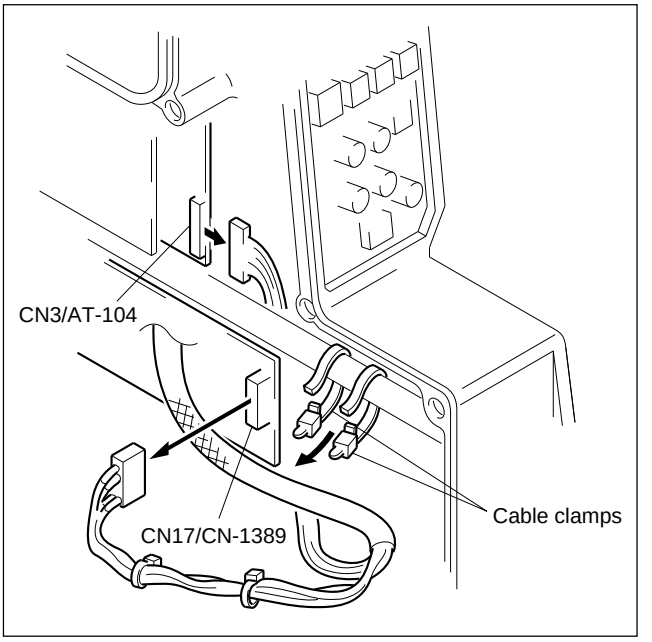

5. Set the switch S1-1 on a new AT-104 board to OFF (Open) position. For details, refer to Section 1-4.
6. Install a new AT-104 board in the reverse order of Steps 1 to 3.

# 2-9. Replacing Connectors

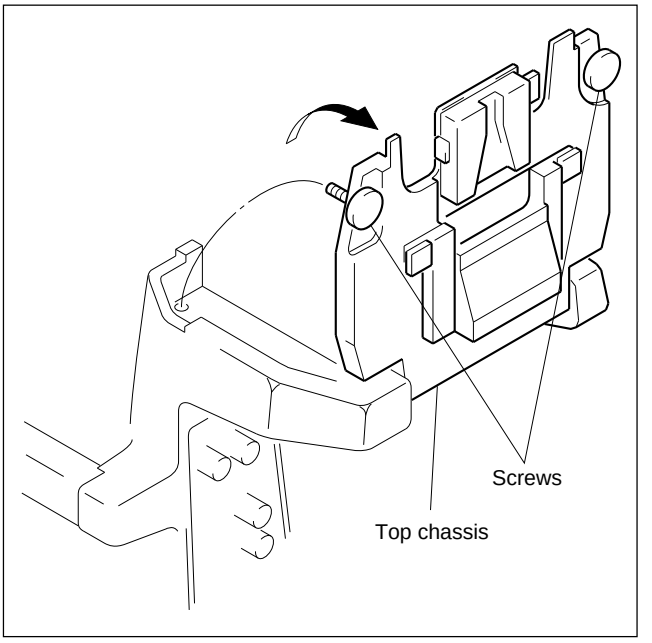
## 2-9-1. VF Connector

### Removal

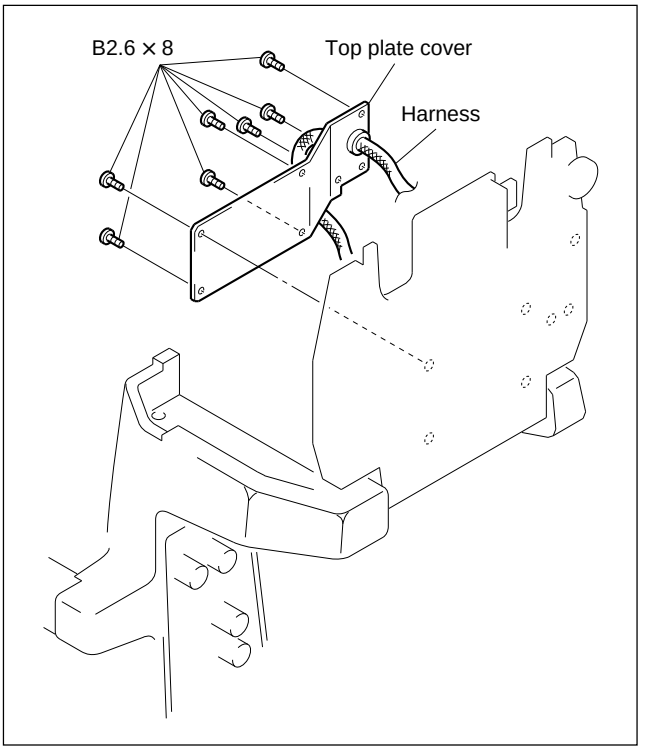
1. Remove the side cover (R) referring to Section 2-4.
2. Disconnect the two connectors CN3 on the AT-104 board and CN17 on the CN-1389 board. Cut the two cable clamps.



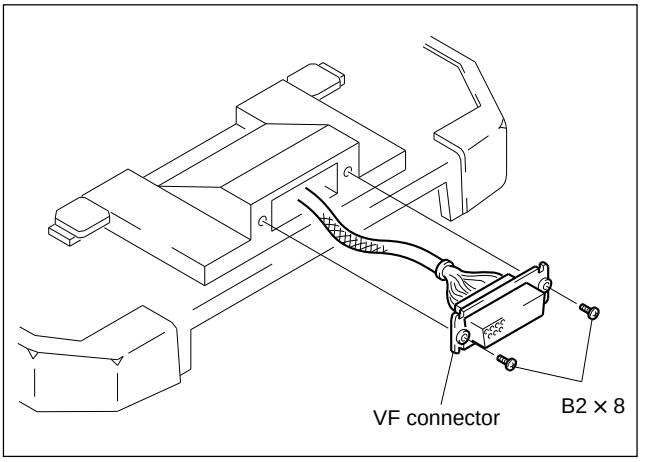

3. Loosen the two screws and open the top chassis.




4. Remove the seven screws (B2.6 × 8) to remove the top plate cover.

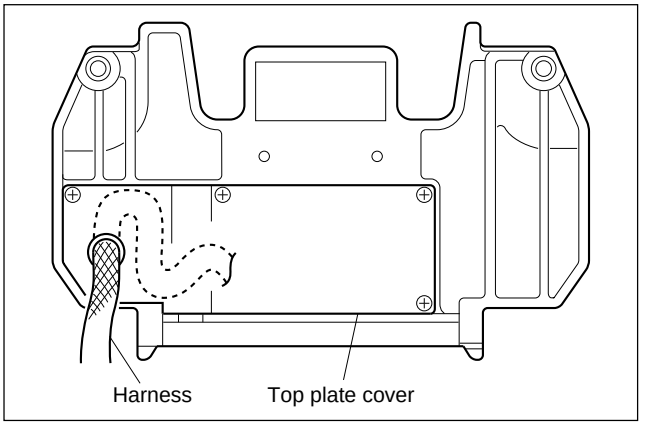



5. Remove the two screws (B2 × 8) and pull out the VF connector with harness.



## Installation

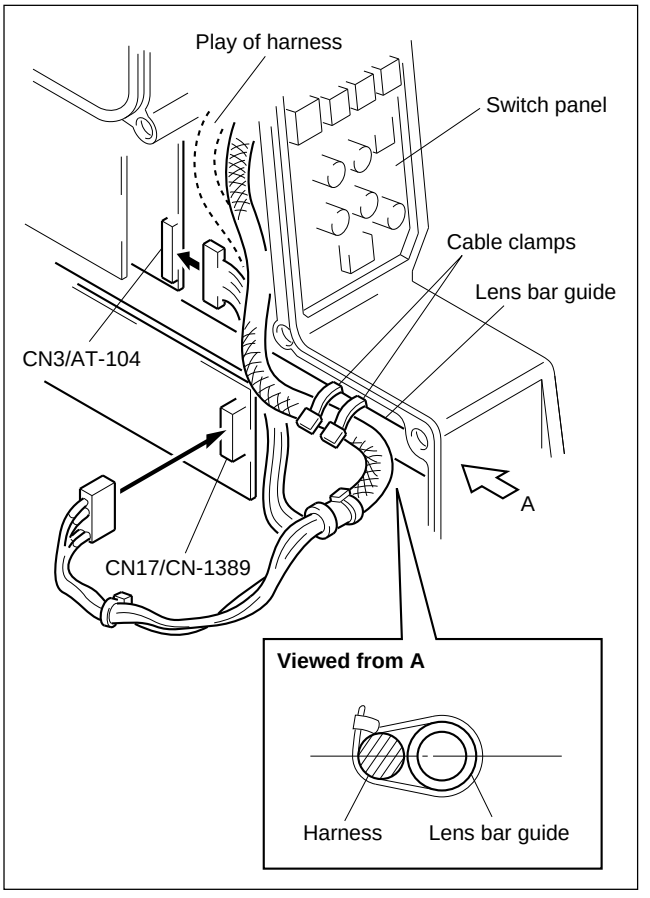
6. Secure a new VF connector harness by two screws.
7. Route the harness as shown below and attach the top plate cover to the top chassis by the screws that were removed in Step 4.



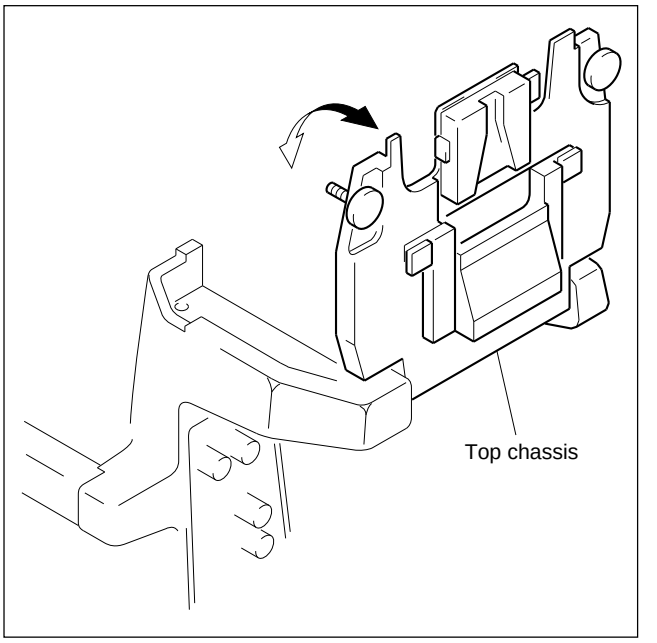

8. Connect the two connectors. Route the harness along the lens bar guide and fasten it to the lens bar guide by the two cable clamps as shown below.

**Note**

Route the harness so that play of harness can be located in the back side of the switch panel.



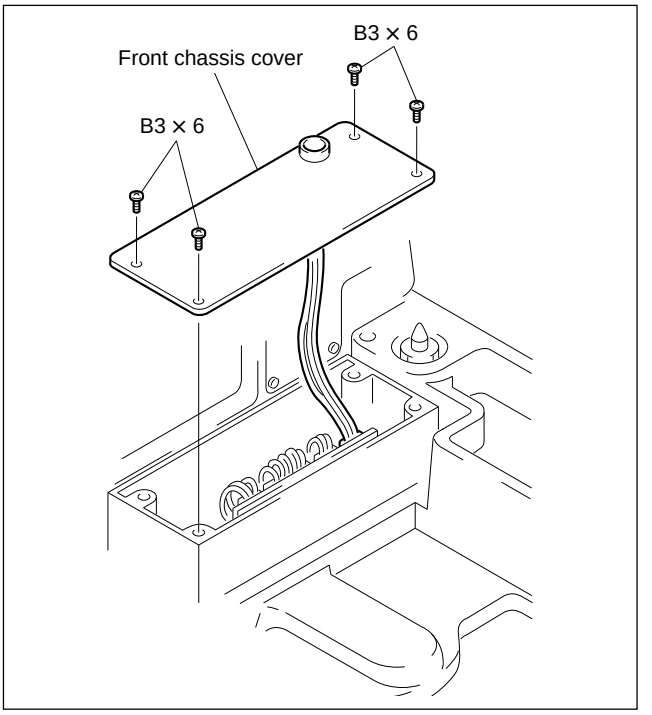

9. Check that the top chassis is opened and closed smoothly.



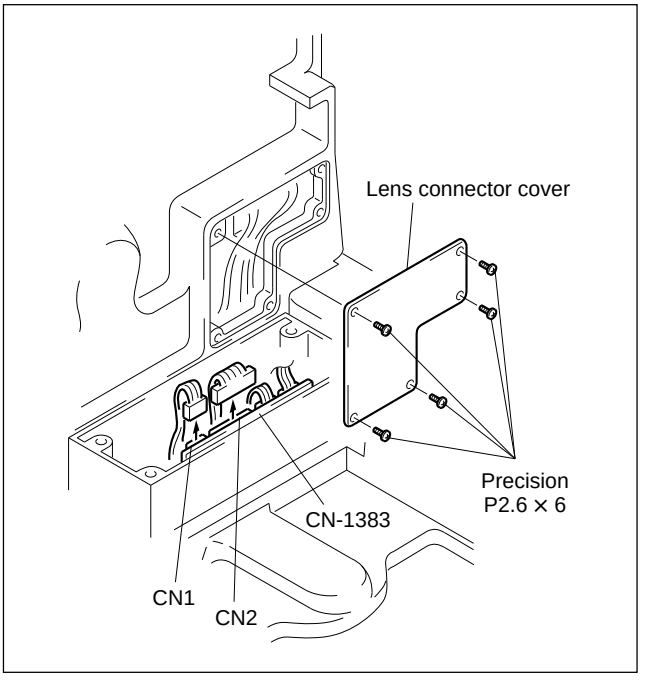

10. Reinstall the top chassis and side cover (R).

## 2-9-2. Lens Connector (36P)

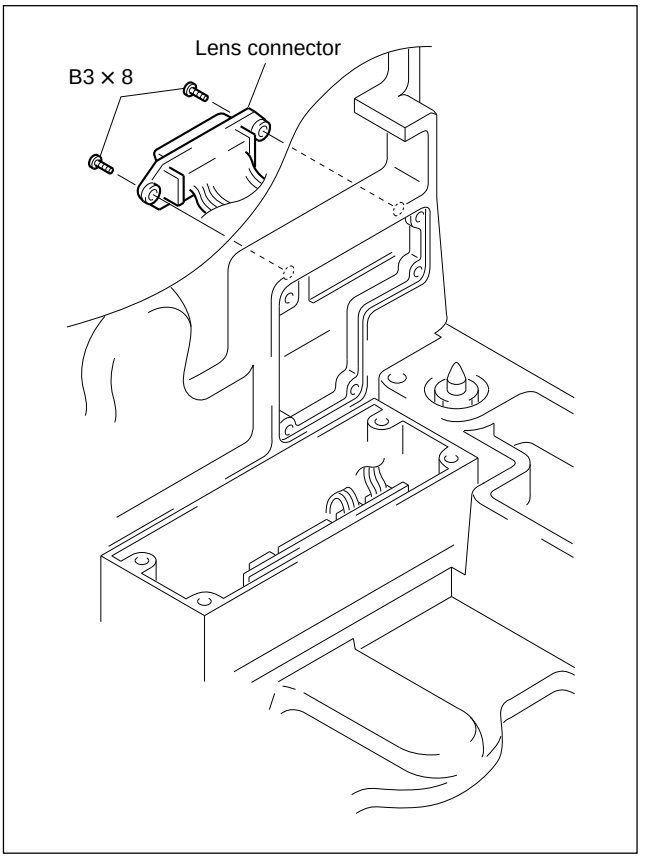
1. Remove the build-up (upper) assembly referring to Section 2-5.
2. Remove the four screws (precision P2.6 × 6) to remove the front chassis cover.




3. Remove the five screws (precision P2.6 × 6) to remove the lens connector cover.
4. Disconnect the two connectors CN1 and CN2 on the CN-1383 board.



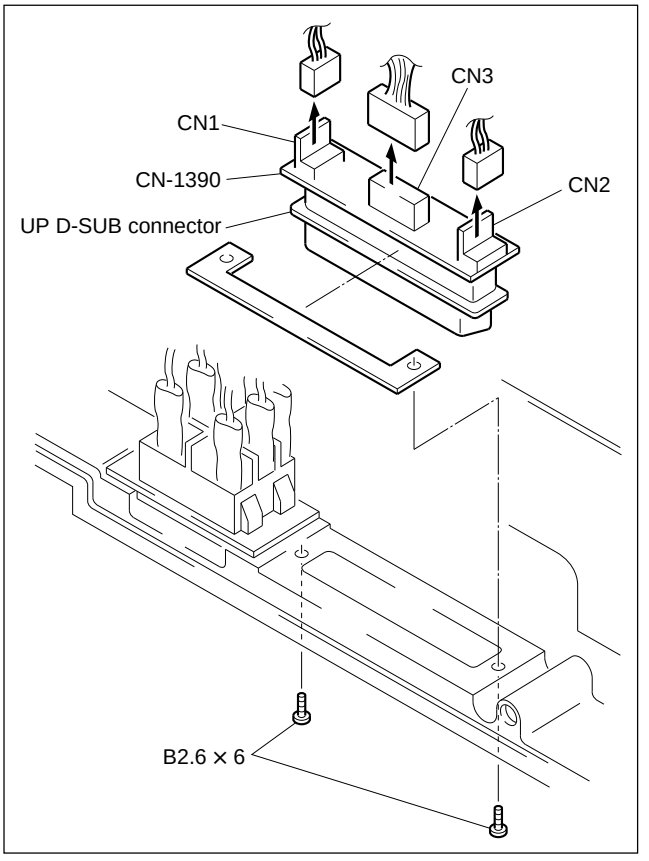

5. Remove the two screws (B3 × 8) and pull out the lens connector with harness.




6. Install a new lens connector harness in the reverse order of removal.

## 2-9-3. UP D-SUB Connector (50P)

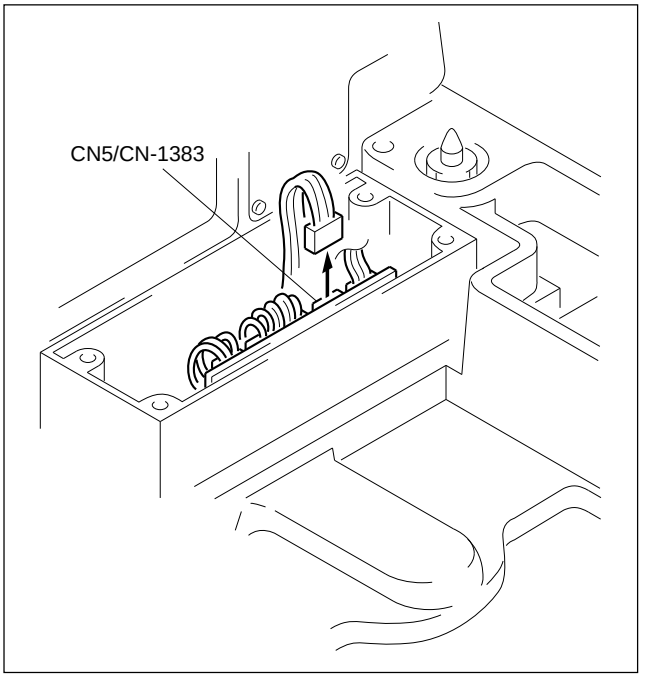
1. Remove the side cover (R) referring to Section 2-4.
2. Remove the build-up (upper) assembly referring to Section 2-5.
3. Disconnect the three connectors CN1, CN2, and CN3 on the CN-1390 board. Remove the two screws (B2.6 × 6) and remove the UP D-SUB connector with the CN-1390 board.



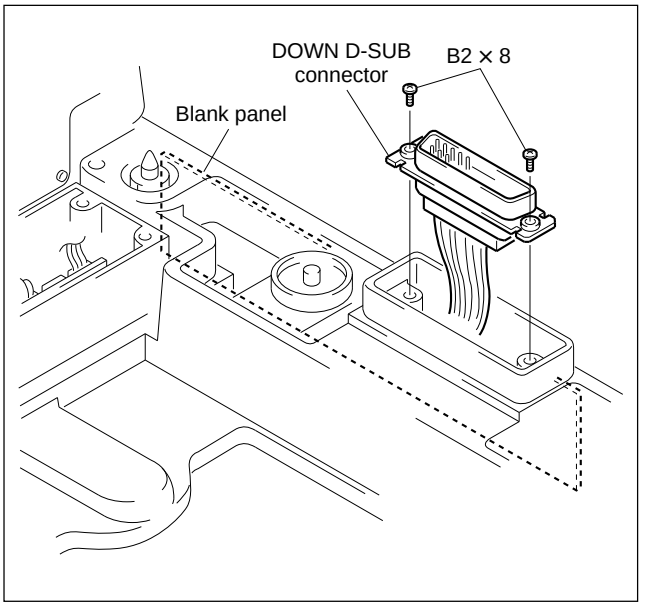

4. Install a new UP D-SUB connector in the reverse order of removal.

## 2-9-4. DOWN D-SUB Connector (50P)

1. Perform the Steps 1 and 2 of Section 2-9-2 to remove the front chassis cover.
2. Disconnect the connector CN5 on the CN-1383 board.




3. Remove the two screws (B2 × 8) and remove the DOWN D-SUB connector with harness.



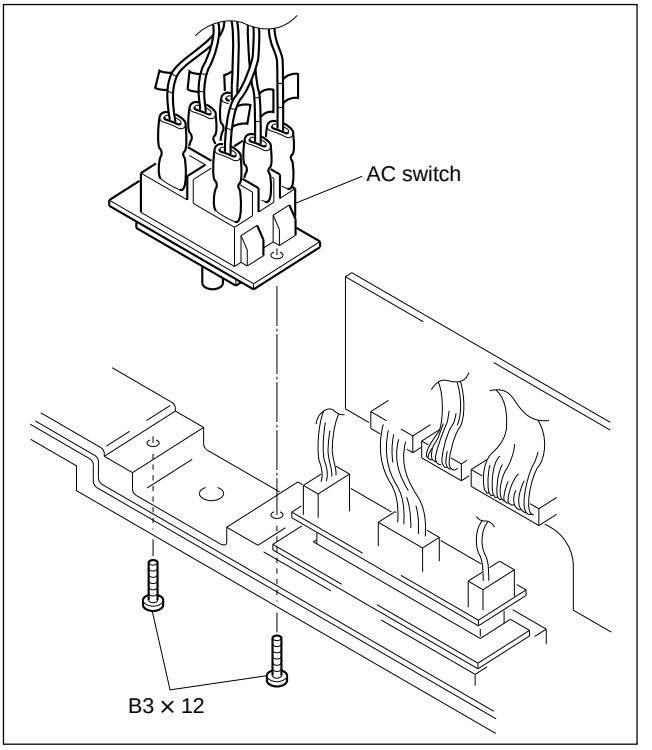

4. Install a new DOWN D-SUB connector harness in the reverse order of removal.

**Note**

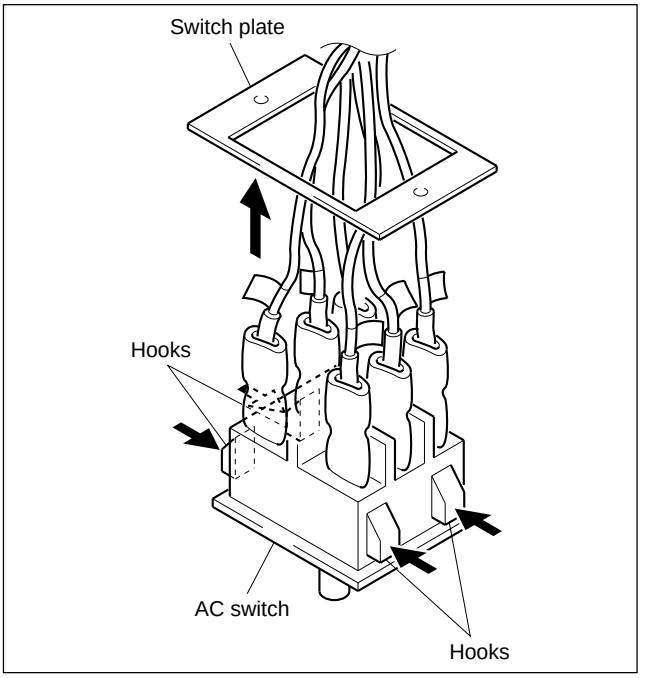
If removing the blank panel shown in the figure of Step 3, you can install the DOWN D-SUB connector easily.

## 2-10. Replacing the AC Switch

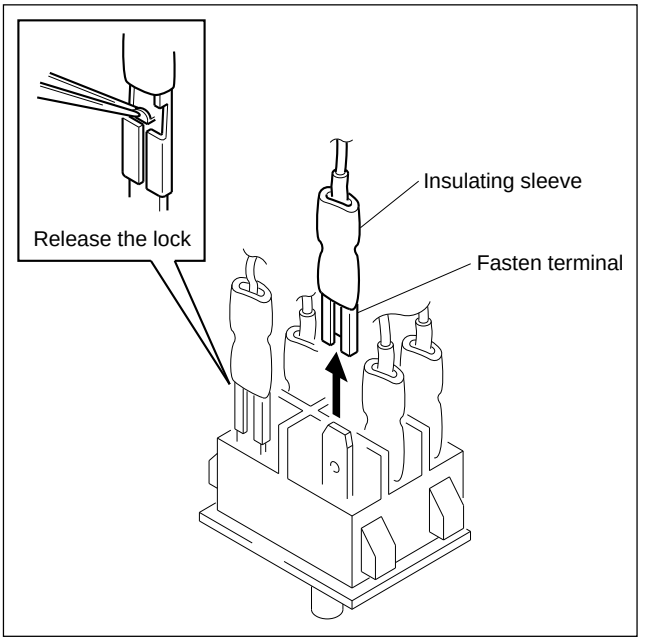
1. Remove the side cover (R) referring to Section 2-4.
2. Remove the build-up (upper) assembly referring to Section 2-5.
3. Remove the two screws (B3 × 12) to remove the AC switch.




4. Move the switch plate to the position as shown below while pressing the four hooks at the same time.



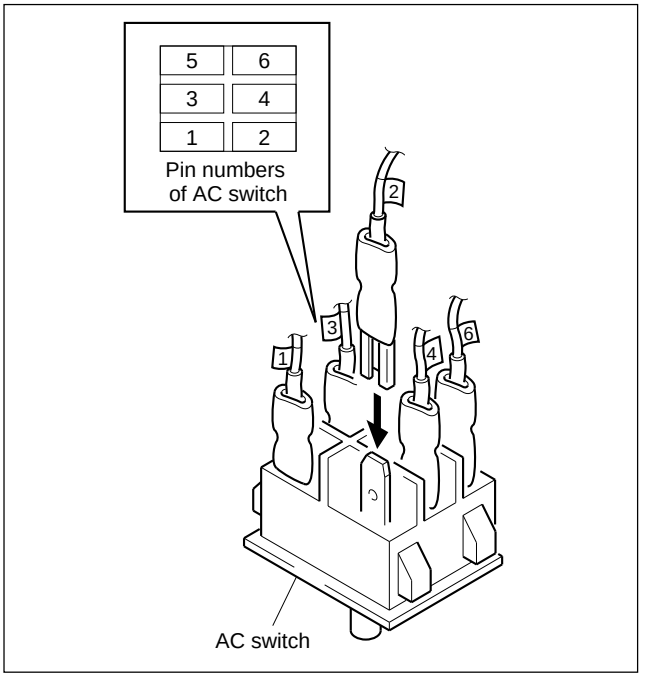

5. Slightly roll up the insulating sleeve and release the lock of the fasten terminal with tweezers or similar item. Pull out the six fasten terminals as shown below.



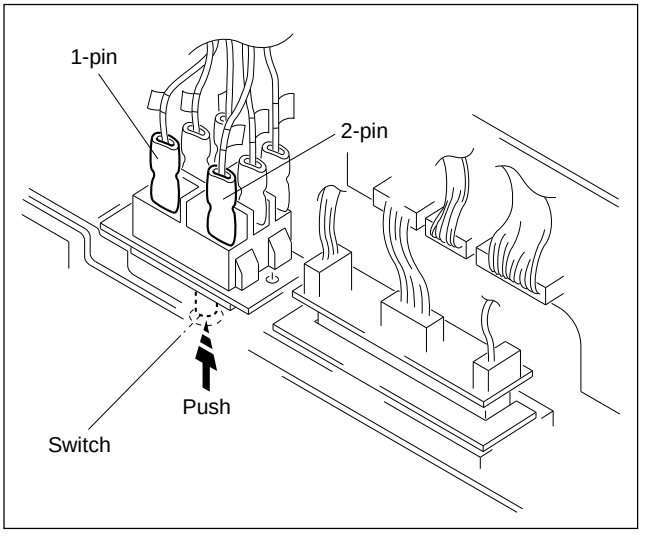

6. Install a new AC switch in the reverse order of removal.

**Note at installation**

- When connecting the fasten terminal, make sure that the pin numbers of the switch agree with the harness numbers.
- After connecting the fasten terminal, make sure that the terminal is locked. When the terminal can not be locked, replace a harness together.




- Install the AC switch on the unit so that 1-pin and 2-pin of switch faces toward you. After installation, push the switch a few times to check that it moves smoothly.



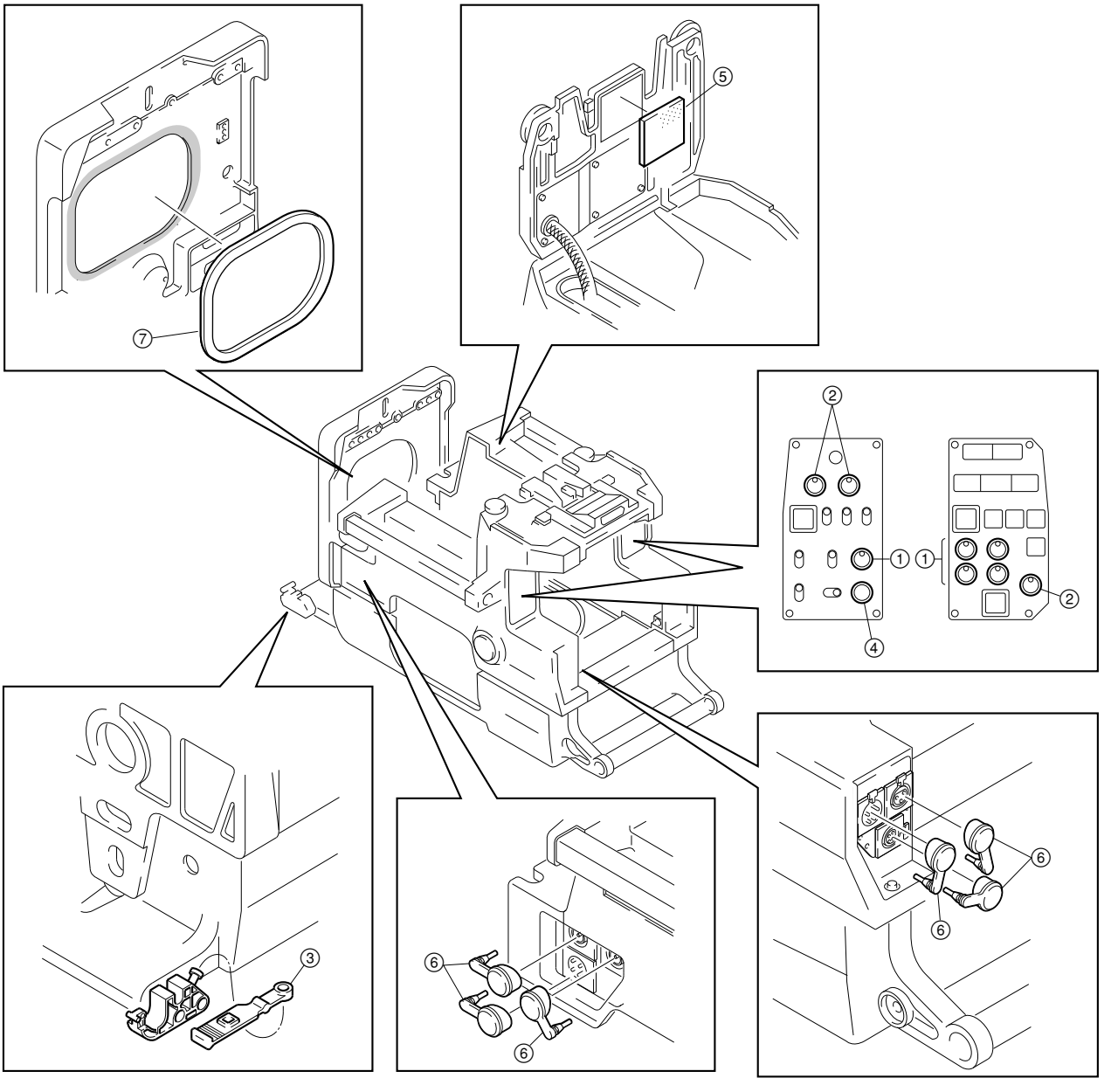

## 2-11. Optional Fixtures

| Description | Sony P/N | For use |
|---|---|---|
| HKCA extension harness | J-6274-410-A | Extension of side cover (R) |
| Silicon compound | 7-662-006-02 | Heat radiation for transistors |

## 2-12. Recommended Replacement Part

Parts listed below are recommended replacement parts. They are subject to cracks with the lapse of time. Check sometimes by visual, and replace as necessary.

| No. | Description | Sony P/N |
|---|---|---|
| ① | VOLUME KNOB DIA 3 ASSY | X-3167-563-X |
| ② | KNOB, VOLUME DIA 6 | 3-185-872-0X |
| ③ | BAND, CLAMP | 3-186-502-0X |
| ④ | KNOB, VOLUME 6 | 3-602-483-0X |
| ⑤ | GUARD, TOP CHASSIS | 3-603-812-0X |
| ⑥ | CAP, CONNECTOR | 3-603-338-0X |
| ⑦ | MOUNT CUSHION, PROTECTION | 3-606-161-0X |

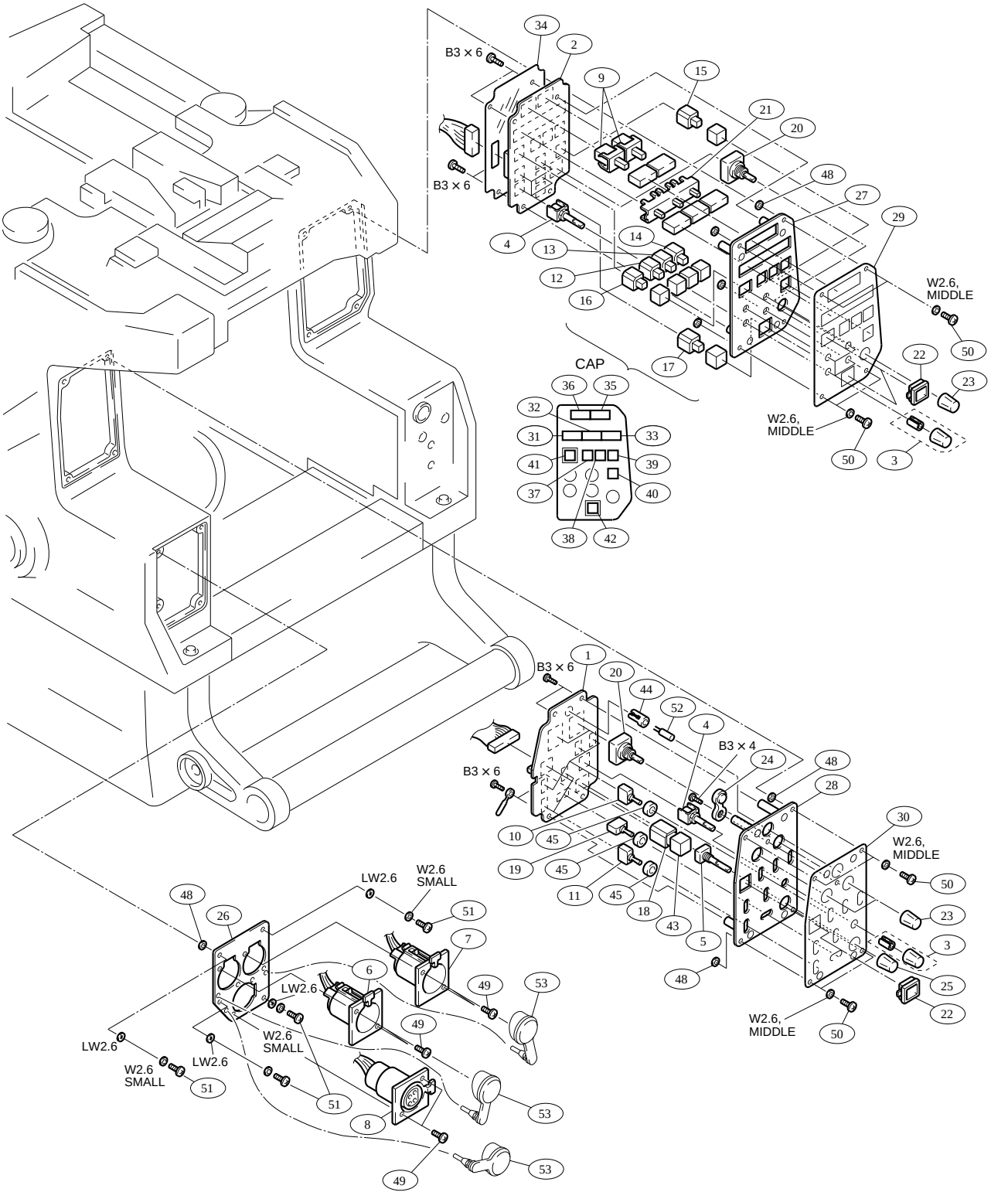


# Section 3
# Spare Parts

## 3-1. Exploded Views

### Screws and Washers List

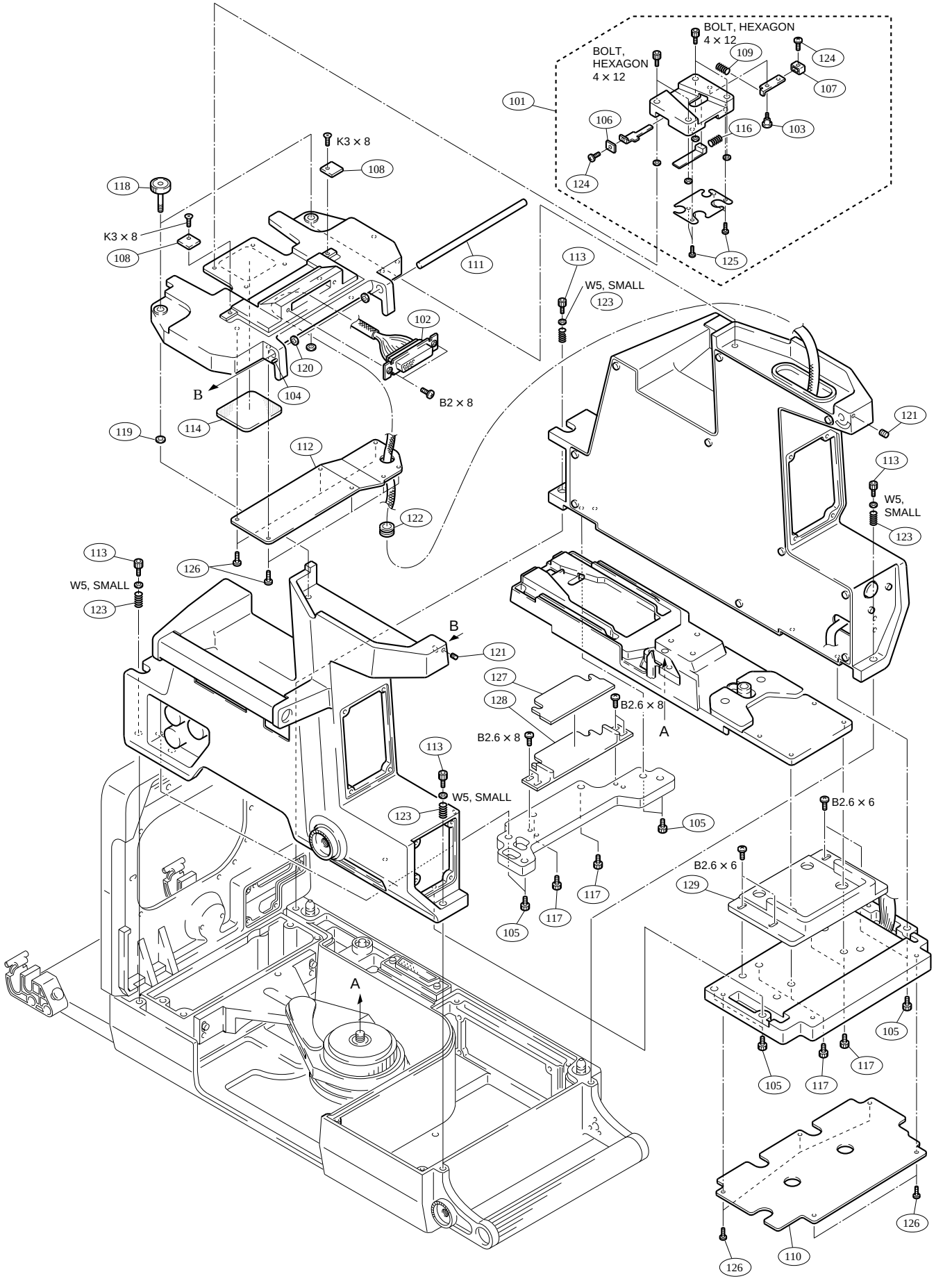
| Part No. | SP | Description |
|---|---|---|
| 7-621-770-67 | s | SCREW +B 2.6X6 |
| 7-621-770-87 | s | SCREW +B 2.6X5 |
| 7-621-770-99 | s | SCREW +B 2.6X8 |
| 7-621-772-48 | s | SCREW +B 2X8 |
| 7-621-773-86 | s | SCREW +B 2.6X4 |
| 7-621-775-08 | s | SCREW +B 2.6X3 |
| 7-621-775-20 | s | SCREW +B 2.6X5 |
| 7-622-205-05 | s | NUT M2 TYPE2 |
| 7-622-207-05 | s | N 2.6, TYPE 2 |
| 7-623-210-22 | o | SW 4,TYPE 2 |
| 7-623-923-11 | s | WASHER 2.6, NYLON |
| 7-624-200-11 | s | NUT, PUSH 2 |
| 7-626-314-01 | s | PIN, SPRING 2X5 |
| 7-627-556-58 | s | SCREW +P 2.6X5 |
| 7-682-248-04 | s | SCREW +K 3X8 |
| 7-682-262-04 | s | SCREW +K 4X10 |
| 7-682-262-09 | s | SCREW +K 4X10 |
| 7-682-545-04 | s | SCREW +B 3X4 |
| 7-682-547-04 | s | SCREW +B 3X6 |
| 7-682-547-09 | s | SCREW +B 3X6 |
| 7-682-548-04 | s | SCREW +B 3X8 |
| 7-682-548-09 | s | SCREW +B 3X8 |
| 7-682-549-09 | s | SCREW +B 3X10 |
| 7-682-550-04 | s | SCREW +B 3X12 |
| 7-682-561-04 | s | SCREW +B 4X8 |
| 7-683-407-04 | s | BOLT, HEXAGON SOCKET 3X14 |
| 7-683-421-04 | o | BOLT, HEXAGON SOCKET 4X12 |
| 7-683-422-04 | s | BOLT, HEXAGON SOCKET 4X14 |
| 7-684-023-04 | s | N 3, TYPE 2 |
| 7-688-002-03 | s | W 2.6, MIDDLE |
| 7-688-003-11 | s | W 3, MIDDLE |
| 7-688-005-02 | s | W 5, SMALL |


B3 × 6
B3 × 6
W2.6, MIDDLE
W2.6, MIDDLE
CAP
B3 × 6
B3 × 6
B3 × 4
W2.6, MIDDLE
W2.6, MIDDLE
LW2.6
W2.6 SMALL
LW2.6
W2.6 SMALL
LW2.6
W2.6 SMALL
LW2.6

| No. | Part No. | SP | Description | |
|---|---|---|---|---|
| 1 | A-8273-747-A | o | MOUNTED CIRCUIT BOARD, SW-865 | |
| 2 | A-8273-761-A | o | MOUNTED CIRCUIT BOARD, SW-866 | |
| 3 | X-3167-563-1 | s | VOLUME KNOB DIA.3 ASSY | |
| 4 | 1-223-741-11 | s | RES, METAL CARBON VAR 50K | |
| 5 | 1-473-435-11 | s | ENCODER, ROTARY | |
| 6 | 1-509-177-31 | o | CONNECTOR, 4P MALE “INCOM1” | *1 |
| | 1-563-159-11 | o | CONNECTOR, 5P FEMALE “INCOM1” | *2 |
| 7 | 1-509-184-31 | o | CONNECTOR, 3P FEMALE “INCOM2” | *1 |
| | 1-563-159-11 | o | CONNECTOR, 5P FEMALE “INCOM2” | *2 |
| 8 | 1-509-185-31 | s | CONNECTOR, 4P FEMALE “DC OUT” | |
| 9 | 1-762-115-11 | s | SWITCH, PUSH (1 KEY) | |
| 10 | 1-762-122-11 | s | SWITCH, TOGGLE | |
| 11 | 1-762-123-11 | s | SWITCH, TOGGLE | |
| 12 | 1-762-129-11 | s | SWITCH, TACTILE (ILLUMINATED) | |
| 13 | 1-762-129-21 | s | SWITCH, TACTILE (ILLUMINATED) | |
| 14 | 1-762-129-31 | s | SWITCH, TACTILE (ILLUMINATED) | |
| 15 | 1-762-131-11 | s | SWITCH, TACTILE (ILLUMINATED) | |
| 16 | 1-762-132-11 | s | SWITCH, TACTILE (ILLUMINATED) | |
| 17 | 1-762-132-21 | s | SWITCH, TACTILE (ILLUMINATED) | |
| 18 | 1-762-133-11 | s | SWITCH, TACTILE (ILLUMINATED) | |
| 19 | 1-762-531-11 | s | SWITCH, TOGGLE | |
| 20 | 1-762-532-11 | s | SWITCH, ROTARY | |
| 21 | 1-762-786-11 | s | SWITCH, PUSH (3 KEY) | |
| 22 | 2-118-858-01 | o | GUARD (SQUARE 9), SWITCH | |
| 23 | 3-185-872-01 | s | KNOB VOLUME DIA. 6 | |
| 24 | 3-185-876-01 | o | COVER, LED | |
| 25 | 3-602-483-01 | s | KNOB, VOLUME 6 | |
| 26 | 3-603-296-04 | o | PANEL, CONNECTOR(2) | |
| 27 | 3-603-306-01 | o | PANEL, CONTROL(L) | |
| 28 | 3-603-307-01 | o | PANEL, CONTROL(R) | |
| 29 | 3-603-308-01 | o | LABEL, CONTROL(L) | |
| 30 | 3-603-309-02 | o | LABEL, CONTROL(R) | |
| 31 | 3-603-318-01 | o | BUTTON “AUX1” | |
| 32 | 3-603-318-11 | o | BUTTON “AUX2” | |
| 33 | 3-603-318-21 | o | BUTTON “AUX3” | |
| 34 | 3-603-411-01 | o | SHEET, INSULATING SW | |
| 35 | 3-692-324-02 | o | BUTTON “RET1” | |
| 36 | 3-692-325-01 | o | BUTTON “RET2” | |
| 37 | 3-708-930-01 | s | CAP “CURSOR1” | |
| 38 | 3-708-930-11 | s | CAP “CURSOR2” | |
| 39 | 3-708-930-21 | s | CAP “CURSOR3” | |
| 40 | 3-708-932-01 | s | CAP “CURSOR ON” | |
| 41 | 3-708-933-01 | s | CAP “STORE” | |
| 42 | 3-708-933-11 | s | CAP “CALL” | |
| 43 | 3-708-934-01 | s | CAP “FILTER LOCAL” | |
| 44 | 3-710-803-03 | o | HOLDER, DIA. 5-9 LED | |
| 45 | 3-729-007-02 | o | PLATE, ORNAMENTAL, TOGGLE SW | |
| 48 | 3-742-004-01 | s | RING, NYLON | |
| 49 | 7-627-556-77 | s | SCREW, PRECISION +P2.6X6 TYPE 1 | |
| 50 | 7-627-556-97 | s | SCREW, PRECISION +P2.6X8 TYPE 1 | |
| 51 | 7-627-557-47 | s | SCREW, PRECISION +P2.6X10 TYPE1 | |
| 52 | 8-719-946-89 | s | DIODE GL5ED5 | |
| 53 | 3-605-338-01 | s | CAP, CONNECTOR | |

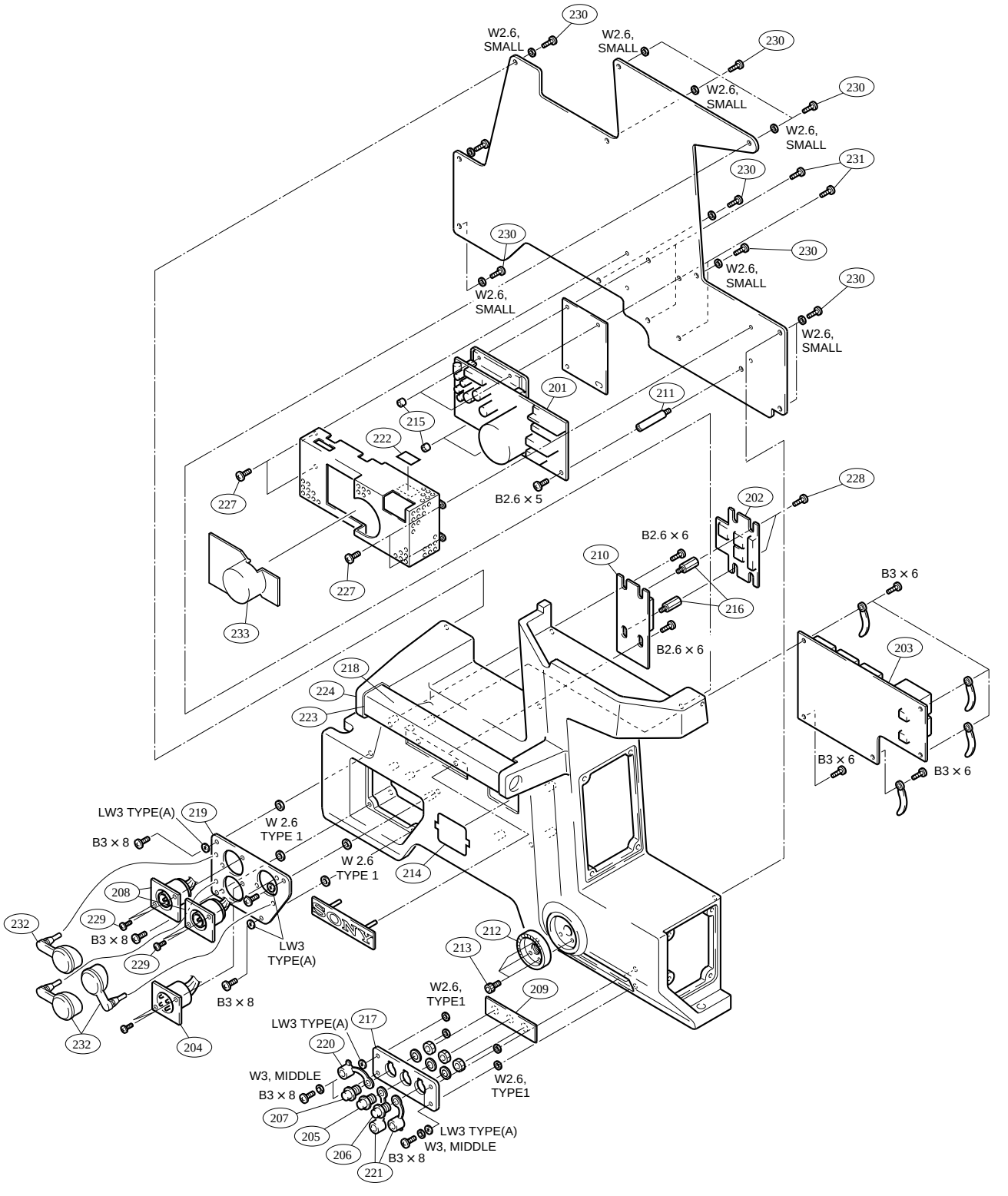
*1 : 10001 through 11000, 13001 and higher
*2 : 11001 through 13000

# Top Build-up Assembly (Top/Bottom)



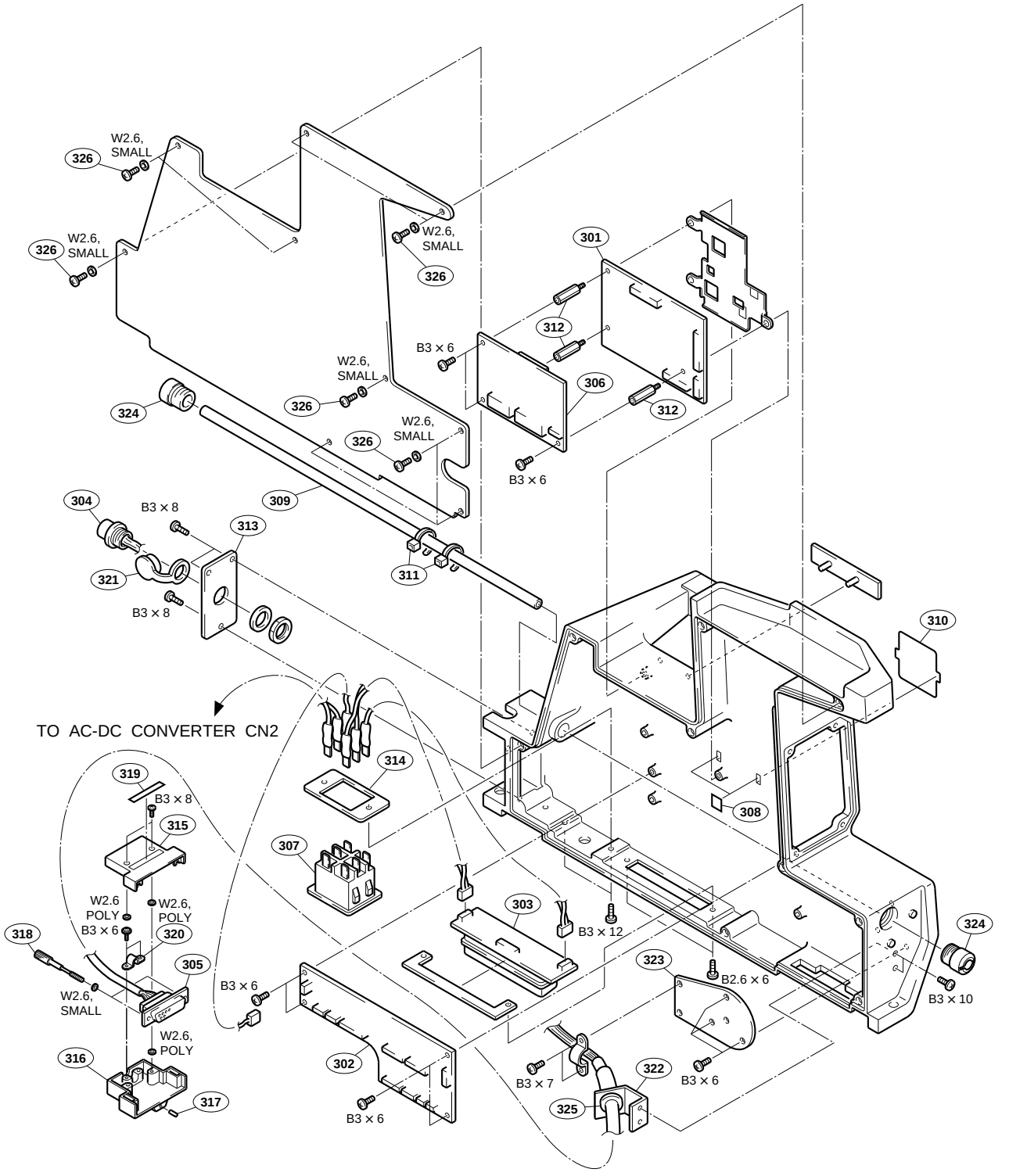
| No. | Part No. | SP | Description |
|---|---|---|---|
| 101 | A-7612-405-A | o | SHOE ASSY, V EDGE |
| 102 | 1-956-262-11 | o | HARNESS (VF) |
| 103 | 2-236-956-00 | s | SCREW, STEP |
| 104 | 2-361-569-00 | o | PIN, STOPPER |
| 105 | 2-391-520-31 | s | BOLT (M5X10), HOLE, HEXAGON |
| 106 | 3-167-513-01 | o | KNOB, RELEASE LEVER |
| 107 | 3-167-514-01 | o | KNOB, STOPPER |
| 108 | 3-182-650-01 | o | PLATE (A) |
| 109 | 3-546-614-00 | s | SPRING, COMPRESSION |
| 110 | 3-603-292-01 | o | LID, BRACKET VCT |
| 111 | 3-603-299-01 | o | HINGE |
| 112 | 3-603-304-01 | o | COVER PLATE, TOP |
| 113 | 3-603-315-02 | s | BOLT, HEXAGON |
| 114 | 3-603-812-01 | s | GARD, TOP SHASSHIS |
| 116 | 3-634-355-00 | s | SPRING |
| 117 | 7-683-422-04 | s | BOLT, HEXAGON SOCKET 4X14 |
| 118 | 3-661-959-00 | s | KNOB, VF LOCK |
| 119 | 3-669-946-00 | s | RING (P4), O |
| 120 | 3-701-444-21 | s | WASHER, 6 |
| 121 | 3-701-510-00 | s | SET SCREW, DOUBLE POINT 4X4 |
| 122 | 3-824-174-00 | s | BUSHING, RUBBER |
| 123 | 4-622-517-01 | s | SPRING, COMPRESSION |
| 124 | 7-627-553-38 | s | SCREW, PRECISION +P2X3 |
| 125 | 7-627-556-38 | s | SCREW +P2.6X4.0 |
| 126 | 7-627-556-97 | s | SCREW, PRECISION +P2.6X8 TYPE 1 |
| 127 | 3-606-784-01 | o | SPACER, FRONT |
| 128 | 3-607-221-01 | o | GUIDE, VCT(F) |
| 129 | 3-607-222-01 | o | GUIDE, VCT(B) |

# Top Build-up Assembly (Right)



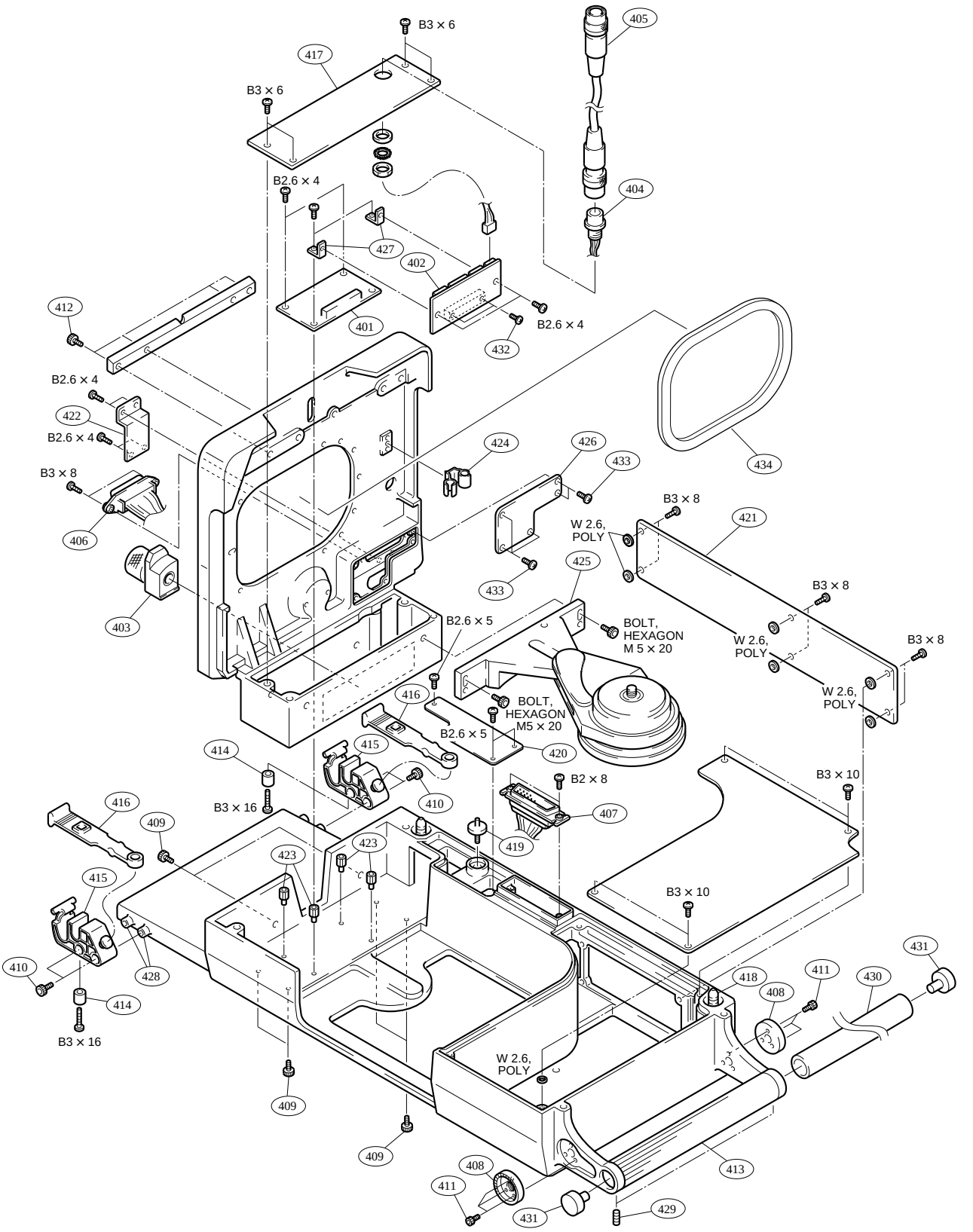
| No. | Part No. | SP | Description |
|---|---|---|---|
| 201 | A-8273-136-A | s | MOUNTED CIRCUIT BOARD, PS-401 |
| 202 | A-8273-225-A | s | MOUNTED CIRCUIT BOARD, PS-419 |
| 203 | A-8273-753-A | o | MOUNTED CIRCUIT BOARD, PS-457 |
| 204 | 1-509-177-31 | o | CONNECTOR, 4P MALE “DC IN” |
| 205 | 1-562-222-21 | s | CONNECTOR 6P FEMALE “RET CONT” |
| 206 | 1-563-929-11 | s | CONNECTOR, 4P FEMALE “SCRIPT” |
| 207 | 1-565-443-11 | o | CONNECTOR, 10P FEMALE “TRACKER” |
| 208 | 1-569-253-21 | s | CONNECTOR, BNC “PROMPTER” “MONITOR” |
| 209 | 1-661-196-11 | o | PRINTED CIRCUIT BOARD, CN-1384 |
| 210 | 1-661-198-12 | o | PRINTED CIRCUIT BOARD, CN-1374 |
| 211 | 2-250-541-00 | s | SUPPORT (A), PC BOARD |
| 212 | 2-280-511-12 | o | BRACKET, ADJUSTMENT, ANGLE |
| 213 | 2-623-773-11 | s | BOLT (M3X8), STAINLESS |
| 214 | 3-185-945-01 | s | PLATE, NO |
| 215 | 3-185-962-01 | o | NUT, INSULATED |
| 216 | 3-602-435-02 | o | SUPPORT, PC BOARD(A) |
| 217 | 3-603-297-03 | o | PANEL, CONNECTOR(3) |
| 218 | 3-603-314-01 | o | COVER, HANDLE |
| 219 | 3-603-316-03 | o | PANEL, CONNECTOR(5) |
| 220 | 3-678-769-00 | s | CAP |
| 221 | 3-685-115-11 | s | CAP (6P), DROP PROTECTION |
| 222 | 3-697-452-01 | o | LABEL, CONNECTOR |
| 223 | 3-740-815-41 | o | PIPE, HANDLE |
| 224 | 3-740-817-11 | o | ESCUTCHEON, PIPE |
| 227 | 7-627-556-17 | s | SCREW, PRECISION +P2.6X3 |
| 228 | 7-627-556-37 | s | SCREW, PRECISION +P2.6X4 TYPE 1 |
| 229 | 7-627-556-77 | s | SCREW, PRECISION +P2.6X6 TYPE 1 |
| 230 | 7-627-556-97 | s | SCREW, PRECISION +P2.6X8 TYPE 1 |
| 231 | 7-627-557-47 | s | SCREW, PRECISION +P2.6X10 TYPE 1 |
| 232 | 3-605-338-01 | s | CAP, CONNECTOR |
| 233 | 3-606-158-01 | o | SHEET(1), PS INSULATING |

# Top Build-up Assembly (Left)

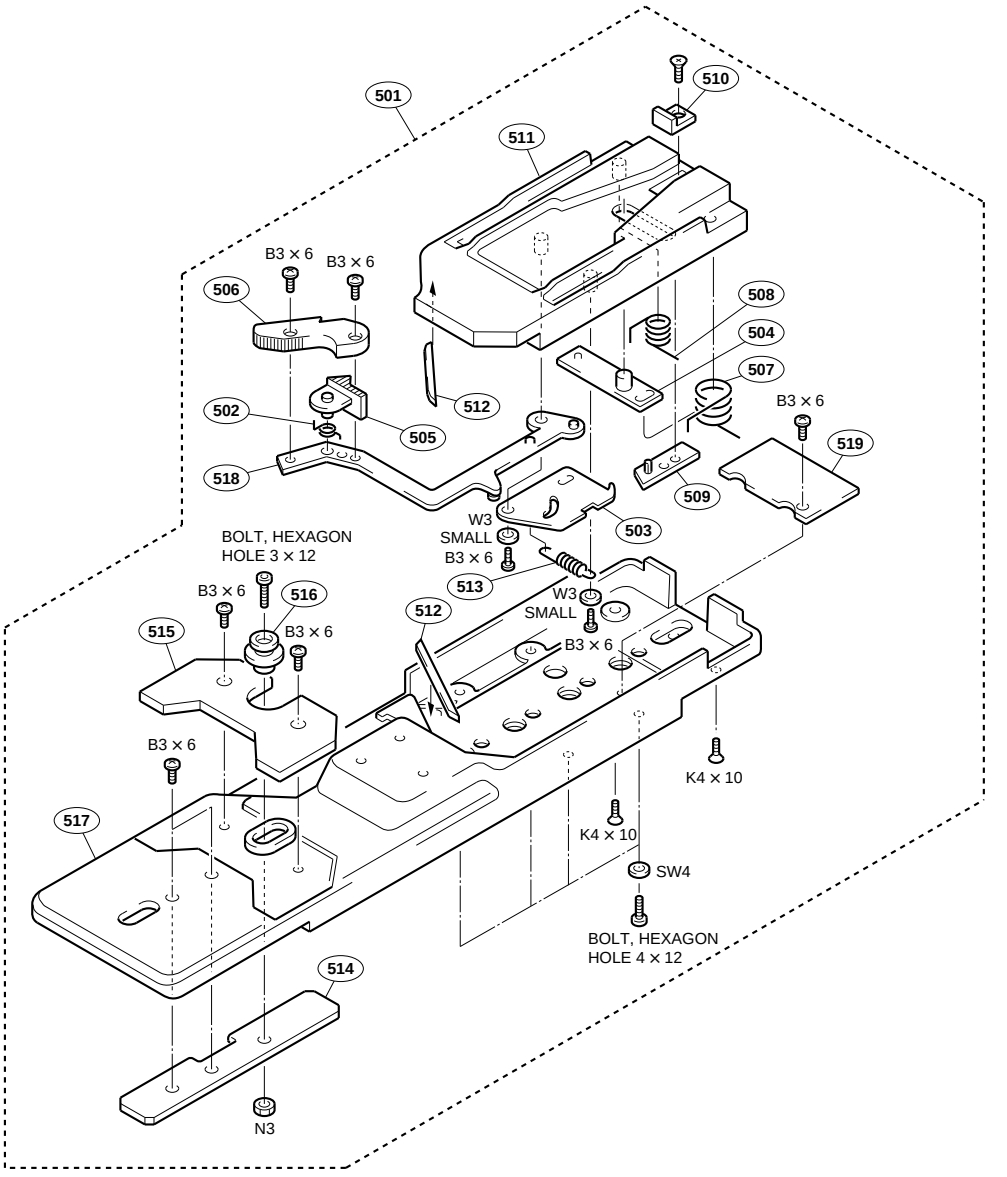


| No. | | Part No. | SP | Description |
|---|---|---|---|---|
| 301 | | A-8273-175-A | o | MOUNTED CIRCUIT BOARD, AT-104 |
| 302 | | A-8273-756-A | o | MOUNTED CIRCUIT BOARD, CN-1389 |
| 303 | | A-8273-757-A | o | MOUNTED CIRCUIT BOARD, CN-1390 |
| 304 | | 1-562-782-21 | s | CONNECTOR 10P FEMALE "LENS POWER" |
| 305 | ⚠ | 1-566-358-11 | s | PIN, D-SUB CONNECTOR 50P MALE |
| 306 | | 1-661-199-11 | o | PRINTED CIRCUIT BOARD, CN-1371 |
| 307 | ⚠ | 1-762-768-11 | s | SWITCH, PUSH (POWER) |
| 308 | | 3-185-871-01 | o | TAPE, DROP PROTECTION SHIELD |
| 309 | | 3-185-924-11 | o | GUIDE, LENS BAR |
| 310 | | 3-185-945-01 | s | PLATE, NO |
| 311 | | 3-337-402-01 | o | BAND, BINDING |
| 312 | | 3-565-714-00 | o | SHAFT, FITTING, PC BOARD |
| 313 | | 3-603-295-03 | o | PANEL,CONNECTOR(4) |
| 314 | | 3-603-302-01 | o | BRACKET,SWICH |
| 315 | | 3-603-310-02 | o | HOLDER,CONNECTOR(UPPER) |
| 316 | | 3-603-311-02 | o | HOLDER,CONNECTOR(LOWER) |
| 317 | | 3-603-312-01 | o | POSITIONING PIN,CONECTOR |
| 318 | | 3-603-313-01 | s | FIX SCREW,CONECTOR |
| 319 | | 3-603-321-01 | o | LABEL,CONECTOR |
| 320 | | 3-603-527-01 | o | HOLDER,CABLE(2) |
| 321 | | 3-678-769-00 | s | CAP |
| 322 | | 3-697-415-01 | o | BRACKET,CABLE |
| 323 | | 3-697-453-01 | o | BRACKET,CABLE |
| 324 | | 3-740-805-01 | o | RETAINER, GUIDE SHAFT |
| 325 | | 4-603-767-00 | o | STOPPER, CODE |
| 326 | | 7-627-556-97 | s | SCREW,PRECISION +P2.6X8 TYPE 1 |

# Lens Support Assembly



| No. | Part No. | SP | Description |
|---|---|---|---|
| 401 | A-8273-188-A | o | MOUNTED CIRCUIT BOARD, IF-568 |
| 402 | A-8273-758-A | o | MOUNTED CIRCUIT BOARD, CN-1383 |
| 403 | X-3692-305-1 | o | RETAINER ASSY, LENS |
| 404 | 1-562-381-22 | s | CONNECTOR, 12P FEMALE |
| 405 | 1-777-289-11 | s | CORD, CONNECTION (12 CORE) |
| 406 | 1-956-243-11 | o | HARNESS (LENS36P) |
| 407 | 1-956-244-11 | o | HARNESS (DOWN-DSUB) |
| 408 | 2-280-511-12 | o | BRACKET, ADJUSTMENT, ANGLE |
| 409 | 2-391-520-21 | s | BOLT (M5X12), HOLE, HEXAGON |
| 410 | 2-391-520-31 | s | BOLT (M5X10), HOLE, HEXAGON |
| 411 | 2-623-773-11 | s | BOLT (M3X8), STAINLESS |
| 412 | 2-990-376-11 | s | BOLT M4X12, HEXAGON SOCKET |
| 413 | 3-185-901-02 | o | COVER, (B) HANDLE |
| 414 | 3-185-902-02 | s | FOOT, FRONT |
| 415 | 3-185-934-02 | o | CLAMP, CABLE |
| 416 | 3-186-502-01 | s | BAND, CLAMP |
| 417 | 3-603-300-02 | o | COVER CHASSIS,FRONT |
| 418 | 3-603-301-02 | o | PIN(1) |
| 419 | 3-603-303-02 | o | PIN(2) |
| 420 | 3-603-317-01 | o | PANEL(B-T) |
| 421 | 3-603-319-01 | o | PANEL,CONNECTOR(1) |
| 422 | 3-603-320-01 | o | PANEL,FRONT |
| 423 | 3-673-910-31 | s | SCREW, CONNECTOR |
| 424 | 3-679-659-03 | o | CLAMP,CABLE |
| 425 | 3-696-946-03 | o | AJUSTING UNIT |
| 426 | 3-696-993-01 | o | CONECTOR COVER,LENS |
| 427 | 3-696-994-02 | o | BRACET(IF-568) |
| 428 | 3-697-463-01 | o | SUPPORT |
| 429 | 3-701-510-00 | s | SET SCREW, DOUBLE POINT 4X4 |
| 430 | 3-740-815-01 | o | PIPE, HANDLE |
| 431 | 3-740-817-01 | o | ESCUTCHEON, PIPE |
| 432 | 7-627-553-67 | s | SCREW, PRECISION +P 2X5 |
| 433 | 7-627-556-77 | s | SCREW,PRECISION +P2.6X6 TYPE 1 |
| 434 | 3-606-161-01 | o | MOUNT CUSHION, PROTECTION |




| No. | Part No. | SP | Description |
|---|---|---|---|
| 501 | A-8273-759-A | o | ADAPTOR ASSY, TRIPOD |
| 502 | 2-381-631-01 | o | SPRING |
| 503 | 2-381-632-02 | o | ARM, LOCKER |
| 504 | 2-381-633-01 | o | SOLENOID |
| 505 | 2-381-635-01 | o | LEVER, LOCK |
| 506 | 2-381-636-01 | o | KNOB |
| 507 | 2-381-637-02 | o | SPRING |
| 508 | 2-381-638-02 | o | SPRING |
| 509 | 2-381-640-02 | o | DOG |
| 510 | 2-381-641-01 | o | COLLAR |
| 511 | 2-381-642-11 | o | MOUNT |
| 512 | 2-381-648-02 | o | INSULATOR, KNOB |
| 513 | 2-381-652-01 | o | SPRING, TENSION |
| 514 | 3-603-305-01 | o | TABLE,PIN |
| 515 | 3-678-704-00 | o | SPACER |
| 516 | 3-696-945-01 | o | PIN(VCT-13KAI) |
| 517 | 3-696-990-01 | o | FRAME(2) |
| 518 | 3-720-909-01 | o | KNOB, CRANK |
| 519 | 3-720-910-01 | o | SHEET, SLIDE |

## 3-2. Electrical Parts List

AT-104 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8273-175-A | o | MOUNTED CIRCUIT BOARD, AT-104 |
| 2pcs | 3-729-061-01 | s | SCREW (M2X4.5) (TYPE 1) |
| C2 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C3 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C4 | 1-135-212-21 | s | TANTALUM, CHIP 2.2uF 20% 35V |
| C6 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C7 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C8 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C10 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C11 | 1-135-179-21 | s | TANTAL 2.2uF 10% 16V |
| C12 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C13 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C15 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C16 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C18 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C19 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C20 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C21 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C22 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C23 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C24 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C25 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C50 | 1-135-070-00 | s | TANTALUM, CHIP 0.1uF 10% 35V |
| C51 | 1-107-420-11 | s | ELECT 47uF 20% 35V |
| C52 | 1-107-420-11 | s | ELECT 47uF 20% 35V |
| C53 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C54 | 1-135-213-21 | s | TANTALUM, CHIP 3.3uF 20% 25V |
| C55 | 1-135-213-21 | s | TANTALUM, CHIP 3.3uF 20% 25V |
| C56 | 1-107-420-11 | s | ELECT 47uF 20% 35V |
| C57 | 1-107-420-11 | s | ELECT 47uF 20% 35V |
| C58 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C59 | 1-135-213-21 | s | TANTALUM, CHIP 3.3uF 20% 25V |
| C60 | 1-135-213-21 | s | TANTALUM, CHIP 3.3uF 20% 25V |
| C61 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C63 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C64 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C65 | 1-110-398-11 | s | CHIP, TANTALUM 15uF 20% 35V |
| C67 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C68 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C69 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C70 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C71 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C72 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C73 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C74 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C75 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C76 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C77 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| CN1 | 1-568-801-11 | s | CONNECTOR, FPC (ZIF) 24P |
| CN2 | 1-764-091-11 | o | PIN, CONNECTOR (PC BOARD) 6P |
| CN3 | 1-764-097-11 | o | PIN, CONNECTOR (PC BOARD) 12P |
| CN4 | 1-691-845-11 | o | CONNECTOR, BOARD TO BOARD 50P |
| D1 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D2 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D3 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D4 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D5 | 8-719-059-52 | s | DIODE MA3J14300LSO |

(AT-104 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| D6 | 8-719-024-81 | s | DIODE 1SS300-TE85L |
| D8 | 8-719-024-81 | s | DIODE 1SS300-TE85L |
| D10 | 8-719-024-81 | s | DIODE 1SS300-TE85L |
| D12 | 8-719-024-81 | s | DIODE 1SS300-TE85L |
| D14 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D15 | 8-719-037-24 | s | DIODE RD12SB3-T1 |
| D20 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D21 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D22 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D23 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D24 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D25 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D26 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D27 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D28 | 8-719-820-41 | s | DIODE 1SS302 |
| D29 | 8-719-820-41 | s | DIODE 1SS302 |
| D30 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D31 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| IC5 | 8-759-926-66 | s | IC SN74HC373ANS |
| IC6 | 8-759-973-71 | s | IC TL7705CPS-B |
| IC7 | 8-759-173-16 | s | IC TL062CPW |
| IC8 | 8-759-274-67 | s | IC LM4040BIM3X-5.0 |
| IC9 | 8-759-537-02 | o | IC H8/532-AT104-V1.00 |
| IC11 | 8-759-149-10 | s | IC UPD4702G |
| L1 | 1-410-381-11 | s | INDUCTOR CHIP 10uH |
| L3 | 1-410-381-11 | s | INDUCTOR CHIP 10uH |
| L4 | 1-410-381-11 | s | INDUCTOR CHIP 10uH |
| L5 | 1-410-381-11 | s | INDUCTOR CHIP 10uH |
| L6 | 1-410-381-11 | s | INDUCTOR CHIP 10uH |
| L7 | 1-410-381-11 | s | INDUCTOR CHIP 10uH |
| Q1 | 8-729-101-07 | s | TRANSISTOR 2SB798 |
| Q2 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q3 | 8-729-101-07 | s | TRANSISTOR 2SB798 |
| Q4 | 8-729-029-14 | s | TRANSISTOR DTC144EUA-T106 |
| Q5 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q6 | 8-729-101-07 | s | TRANSISTOR 2SB798 |
| Q7 | 8-729-029-14 | s | TRANSISTOR DTC144EUA-T106 |
| Q8 | 8-729-807-51 | s | TRANSISTOR 2SD1623-S |
| R1 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R2 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R3 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R4 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R5 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R10 | 1-218-668-11 | s | CHIP, METAL 100 0.50% 1/16W |
| R11 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R12 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R13 | 1-216-681-11 | s | METAL, CHIP 18K 0.5% 1/10W |
| R14 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R15 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R16 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R17 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R18 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R19 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R20 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R21 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R22 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R23 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |

(AT-104 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R24 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R25 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R26 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R27 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R28 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R29 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R30 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R31 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R32 | 1-218-712-11 | s | CHIP, METAL 6.8K 0.50% 1/16W |
| R50 | 1-216-649-11 | s | CHIP, METAL 820 0.50% 1/10W |
| R51 | 1-218-606-11 | s | CHIP, METAL 2.2 5% 1W |
| R52 | 1-216-619-11 | s | CHIP, METAL 47 0.50% 1/10W |
| R53 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R54 | 1-216-649-11 | s | CHIP, METAL 820 0.50% 1/10W |
| R55 | 1-218-606-11 | s | CHIP, METAL 2.2 5% 1W |
| R56 | 1-216-619-11 | s | CHIP, METAL 47 0.50% 1/10W |
| R57 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R59 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R60 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R61 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R62 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R63 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R64 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R65 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R66 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R67 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R68 | 1-218-728-11 | s | METAL 33K 0.50% 1/16W |
| R69 | 1-218-728-11 | s | METAL 33K 0.50% 1/16W |
| R70 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R71 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R72 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R73 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R74 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R75 | 1-216-295-11 | s | CHIP, CONDUCTOR 0 |
| R76 | 1-218-728-11 | s | METAL 33K 0.50% 1/16W |
| R77 | 1-218-728-11 | s | METAL 33K 0.50% 1/16W |
| R78 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R79 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R80 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R81 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R82 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R83 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| RB3 | 1-239-416-11 | s | RESISTOR BLOCK, CHIP 220X4 |
| RB4 | 1-239-308-11 | s | RESISTOR BLOCK, CHIP 47KX8 |
| RB5 | 1-239-416-11 | s | RESISTOR BLOCK, CHIP 220X4 |
| RB6 | 1-239-416-11 | s | RESISTOR BLOCK, CHIP 220X4 |
| RB7 | 1-239-389-11 | s | RESISTOR BLOCK, CHIP 47KX4 |
| RB8 | 1-239-416-11 | s | RESISTOR BLOCK, CHIP 220X4 |
| RB10 | 1-239-308-11 | s | RESISTOR BLOCK, CHIP 47KX8 |
| RB11 | 1-239-308-11 | s | RESISTOR BLOCK, CHIP 47KX8 |
| RB12 | 1-236-904-11 | s | RESISTOR BLOCK, CHIP 1KX4 |
| RB13 | 1-236-904-11 | s | RESISTOR BLOCK, CHIP 1KX4 |
| RB14 | 1-239-308-11 | s | RESISTOR BLOCK, CHIP 47KX8 |
| RB15 | 1-239-308-11 | s | RESISTOR BLOCK, CHIP 47KX8 |
| RB16 | 1-239-389-11 | s | RESISTOR BLOCK, CHIP 47KX4 |
| RB17 | 1-239-416-11 | s | RESISTOR BLOCK, CHIP 220X4 |
| RB18 | 1-236-904-11 | s | RESISTOR BLOCK, CHIP 1KX4 |
| RB19 | 1-236-904-11 | s | RESISTOR BLOCK, CHIP 1KX4 |

(AT-104 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| RB20 | 1-239-436-11 | s | RESISTOR BLOCK, CHIP 33KX4 |
| RB21 | 1-239-308-11 | s | RESISTOR BLOCK, CHIP 47KX8 |
| RV1 | 1-241-265-11 | s | RES, ADJ, METAL 20K |
| S1 | 1-553-572-00 | s | SWITCH, DIP 4-CKT |
| X1 | 1-760-435-11 | s | CRYSTAL 18.00MHz |

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CN-1371 BOARD
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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-661-199-11 | o | PRINTED CIRCUIT BOARD, CN-1371 |
| 2pcs | 7-627-553-67 | s | SCREW,PRECISION +P 2X5 |
| 2pcs | 7-622-205-05 | s | NUT M2 TYPE2 |
| C1 | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C2 | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| CN1 | 1-695-452-11 | o | CONNECTOR, BOARD TO BOARD 50P |
| CN2 | 1-580-568-11 | o | PIN, CONNECTOR (PC BOARD) 26P |
| CN3 | 1-580-570-11 | o | PIN, CONNECTOR (PC BOARD) 30P |
| CN4 | 1-580-559-11 | o | PIN, CONNECTOR (PC BOARD) 8P |
| IC1 | 8-759-926-66 | s | IC SN74HC373ANS |
| IC2 | 8-759-926-66 | s | IC SN74HC373ANS |
| R1 | 1-216-295-11 | s | CHIP, CONDUCTOR 0 |

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CN-1374 BOARD
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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-661-198-12 | o | PRINTED CIRCUIT BOARD, CN-1374 |
| CN1 | 1-573-666-11 | o | HOUSING, 14P |
| CN2 | 1-580-534-11 | o | PIN, CONNECTOR (PC BOARD) 10P |

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CN-1383 BOARD
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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8273-758-A | o | MOUNTED CIRCUIT BOARD, CN-1383 |
| 2pcs | 7-627-553-67 | s | SCREW,PRECISION +P 2X5 |
| C1 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C2 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C3 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C4 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C5 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C6 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C7 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C8 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C9 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C10 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C11 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C12 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C13 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C14 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C15 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C16 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C17 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C18 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C19 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C20 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C21 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C22 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C23 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C24 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C25 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C26 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C27 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C28 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C29 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C30 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C31 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C32 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C33 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C34 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C35 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C36 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| CN1 | 1-580-570-11 | o | PIN, CONNECTOR (PC BOARD) 30P |
| CN2 | 1-580-558-11 | o | PIN, CONNECTOR (PC BOARD) 6P |
| CN3 | 1-691-845-11 | o | CONNECTOR, BOARD TO BOARD 50P |
| CN4 | 1-580-561-11 | o | PIN, CONNECTOR 12P |
| CN5 | 1-580-562-11 | o | PIN, CONNECTOR (PC BOARD) 14P |

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CN-1384 BOARD
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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-661-196-11 | o | PRINTED CIRCUIT BOARD, CN-1384 |
| CN1 | 1-580-535-11 | o | PIN, CONNECTOR 12P |
| CN2 | 1-580-534-11 | o | PIN, CONNECTOR (PC BOARD) 10P |

## CN-1389 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8273-756-A | o | MOUNTED CIRCUIT BOARD, CN-1389 |
| C1 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C3 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C8 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C9 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C10 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C12 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C14 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C15 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C16 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C17 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C18 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C19 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C20 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C21 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C22 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C23 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C24 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C25 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C26 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C27 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C28 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C29 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C30 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C31 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C32 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C33 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C34 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C35 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C36 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C37 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C38 | 1-162-964-11 | s | CERAMIC 0.001uF 10% 50V |
| C39 | 1-162-964-11 | s | CERAMIC 0.001uF 10% 50V |
| C40 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C41 | 1-162-964-11 | s | CERAMIC 0.001uF 10% 50V |
| C42 | 1-162-964-11 | s | CERAMIC 0.001uF 10% 50V |
| C43 | 1-162-964-11 | s | CERAMIC 0.001uF 10% 50V |
| C45 | 1-162-964-11 | s | CERAMIC 0.001uF 10% 50V |
| C59 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C60 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C61 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C62 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C63 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C64 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C65 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C66 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C67 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C68 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C69 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C70 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C71 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| CN1 | 1-580-532-11 | o | PIN, CONNECTOR (PC BOARD) 6P |
| CN2 | 1-580-544-11 | s | PIN, CONNECTOR 30P |
| CN3 | 1-580-541-11 | s | PIN, CONNECTOR (PC BOARD) 24P |
| CN4 | 1-506-471-11 | o | PIN, CONNECTOR 6P |
| CN5 | 1-506-471-11 | o | PIN, CONNECTOR 6P |
| CN6 | 1-506-472-11 | s | CONNECTOR, 7P, MALE |
| CN7 | 1-764-101-11 | s | PIN, CONNECTOR (PC BOARD) 2P |

## (CN-1389 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| CN8 | 1-580-533-11 | s | PIN, CONNECTOR 8P |
| CN9 | 1-580-534-11 | o | PIN, CONNECTOR (PC BOARD) 10P |
| CN11 | 1-580-538-11 | o | PIN, CONNECTOR (PC BOARD) 18P |
| CN12 | 1-580-539-11 | o | PIN, CONNECTOR (PC BOARD) 20P |
| CN13 | 1-506-471-11 | o | PIN, CONNECTOR 6P |
| CN14 | 1-506-471-11 | o | PIN, CONNECTOR 6P |
| CN15 | 1-506-467-11 | o | CONNECTOR, 2P, MALE |
| CN16 | 1-506-467-11 | o | CONNECTOR, 2P, MALE |
| CN17 | 1-580-535-11 | o | PIN, CONNECTOR 12P |
| R1 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R2 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |

## CN-1390 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | ⚠ A-8273-757-A | o | MOUNTED CIRCUIT BOARD, CN-1390 |
| 18pcs | 1-774-994-11 | o | CONTACT, SOCKET |
| CN1 | ⚠ 1-580-837-11 | o | PIN, CONNECTOR (PC BOARD) 3P |
| CN2 | 1-764-101-11 | s | PIN, CONNECTOR (PC BOARD) 2P |
| CN3 | 1-580-536-11 | s | PIN, CONNECTOR (PC BOARD) 14P |

## IF-568 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8273-188-A | o | MOUNTED CIRCUIT BOARD, IF-568 |
| 2pcs | 3-729-061-01 | s | SCREW (M2X4.5) (TYPE 1) |
| C1 | 1-104-919-11 | s | TANTALUM, CHIP 10uF 20% 25V |
| C2 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C3 | 1-104-919-11 | s | TANTALUM, CHIP 10uF 20% 25V |
| C4 | 1-104-919-11 | s | TANTALUM, CHIP 10uF 20% 25V |
| C5 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C6 | 1-104-914-11 | s | TANTAL 22uF 20% 16V |
| C7 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C8 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C9 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C10 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C11 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C12 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C13 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C14 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C15 | 1-104-852-11 | s | TANTALUM, CHIP 22uF 20% 10V |
| C16 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C17 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C18 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C19 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C20 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| CN1 | 1-695-453-11 | s | CONNECTOR, BOARD TO BOARD 50P |
| D1 | 8-719-404-35 | s | DIODE MA141WK |
| D2 | 8-719-404-35 | s | DIODE MA141WK |
| D3 | 8-719-029-73 | s | DIODE RD10UJN-T1 |
| D4 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D5 | 8-719-989-76 | s | DIODE SC802-04 |
| D6 | 8-719-989-76 | s | DIODE SC802-04 |
| D7 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D8 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D9 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D10 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D11 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D12 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D13 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D14 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D15 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D16 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D17 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D18 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D19 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D20 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D21 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D22 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D23 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D24 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D25 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| D26 | 8-719-059-59 | s | DIODE MA3J74200LSO |
| IC1 | 8-759-076-87 | s | IC TLC27L4CPW |
| IC2 | 8-759-058-54 | s | IC TC7S00FU(TE85R) |
| IC3 | 8-759-185-42 | s | IC LM4040AIM3-2.5 |
| IC4 | 8-759-973-71 | s | IC TL7705CPS-B |
| IC5 | 8-759-059-50 | s | IC MB88351PFV |
| IC6 | 8-759-537-03 | s | IC H8/520-IF568-V1.00 |
| IC7 | 8-759-049-58 | s | IC SN74HC04APW-E05 |

(IF-568 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| L1 | 1-410-381-11 | s | INDUCTOR CHIP 10uH |
| L2 | 1-410-381-11 | s | INDUCTOR CHIP 10uH |
| Q1 | 8-729-820-90 | s | TRANSISTOR 2SD1621-ST |
| Q2 | 8-729-924-39 | s | TRANSISTOR DTC143XU |
| Q3 | 8-729-924-39 | s | TRANSISTOR DTC143XU |
| Q4 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q5 | 8-729-820-86 | s | TRANSISTOR 2SB1121-ST |
| R1 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R2 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R3 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R4 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R5 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R6 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R7 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R8 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R9 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R10 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R11 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R12 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R13 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R14 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R15 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R16 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R17 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R18 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R19 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R20 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R21 | 1-218-718-11 | s | CHIP, METAL 12K 0.50% 1/16W |
| R22 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R23 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R24 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |
| R25 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R26 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R27 | 1-218-699-11 | s | CHIP, METAL 2K 0.50% 1/16W |
| R28 | 1-218-701-11 | s | METAL 2.4K 0.50% 1/16W |
| R29 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R30 | 1-218-709-11 | s | METAL 5.1K 0.50% 1/16W |
| R31 | 1-218-709-11 | s | METAL 5.1K 0.50% 1/16W |
| R32 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R33 | 1-218-881-11 | s | CHIP, METAL 27K 0.50% 1/16W |
| R34 | 1-218-722-11 | s | CHIP, METAL 18K 0.50% 1/16W |
| R35 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R36 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R37 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R38 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R39 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R40 | 1-218-675-11 | s | CHIP, METAL 200 0.50% 1/16W |
| R41 | 1-218-675-11 | s | CHIP, METAL 200 0.50% 1/16W |
| R42 | 1-218-728-11 | s | METAL 33K 0.50% 1/16W |
| R43 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R44 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R45 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R46 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R47 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| RB1 | 1-239-308-11 | s | RESISTOR BLOCK, CHIP 47KX8 |
| RB2 | 1-239-389-11 | s | RESISTOR BLOCK, CHIP 47KX4 |
| RB3 | 1-239-389-11 | s | RESISTOR BLOCK, CHIP 47KX4 |

(IF-568 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| X1 | 1-579-594-11 | s | VIBRATOR, CRYSTAL 19.6608MHz |

## PS-401 BOARD

| Ref. No. or Q'ty | | Part No. | SP | Description |
|---|---|---|---|---|
| 1pc | | A-8273-136-A | o | MOUNTED CIRCUIT BOARD, PS-401 |
| 1pc | | 2-250-541-00 | s | SUPPORT (A), PC BOARD |
| 1pc | | 7-621-770-87 | s | SCREW +B 2.6X5 |
| 1pc | | 1-562-579-21 | s | PLUG, SHORTING |
| C1 | | 1-137-105-11 | s | FILM 0.01uF 20% 250 |
| C2 | ⚠ | 1-113-907-51 | s | CERAMIC 0.0022uF 20% 250 |
| C4 | ⚠ | 1-113-907-51 | s | CERAMIC 0.0022uF 20% 250 |
| C5 | | 1-113-711-11 | s | ELECT 330uF 20% 450Vv |
| C6 | | 1-126-405-11 | s | ELECT 10uF 20% 50V |
| C7 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C8 | | 1-163-009-11 | s | CERAMIC, CHIP 0.001uF 10% 50V |
| C9 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C10 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C11 | | 1-110-519-11 | s | ELECT 4.7uF 20% 400V |
| C12 | ⚠ | 1-113-903-11 | s | ELECT 0.001uF 20% 250V |
| C13 | ⚠ | 1-113-903-11 | s | ELECT 0.001uF 20% 250V |
| C14 | | 1-163-009-11 | s | CERAMIC, CHIP 0.001uF 10% 50V |
| C15 | | 1-163-009-11 | s | CERAMIC, CHIP 0.001uF 10% 50V |
| C16 | | 1-127-530-11 | s | ELECT 22uF 20% 20V |
| C17 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C18 | | 1-163-009-11 | s | CERAMIC, CHIP 0.001uF 10% 50V |
| C19 | | 1-163-009-11 | s | CERAMIC, CHIP 0.001uF 10% 50V |
| C20 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C21 | | 1-107-910-11 | s | ELECT 100uF 20% 50V |
| C22 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C23 | | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C24 | | 1-163-131-00 | s | CERAMIC, CHIP 390PF 5% 50V |
| C25 | | 1-107-689-21 | s | TANTAL 1uF 20% 35V |
| C26 | | 1-128-526-11 | s | ELECT 100uF 20% 25V |
| C27 | | 1-128-526-11 | s | ELECT 100uF 20% 25V |
| C28 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C29 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C30 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C31 | | 1-107-823-11 | s | CHIP, CERAMIC 0.47uF 10% 16V |
| C32 | | 1-107-823-11 | s | CHIP, CERAMIC 0.47uF 10% 16V |
| C33 | | 1-110-519-11 | s | ELECT 4.7uF 20% 400V |
| C34 | | 1-110-519-11 | s | ELECT 4.7uF 20% 400V |
| C35 | | 1-104-664-11 | s | ELECT 47uF 20% 25V |
| C36 | | 1-104-664-11 | s | ELECT 47uF 20% 25V |
| C37 | | 1-110-519-11 | s | ELECT 4.7uF 20% 400V |
| C38 | | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| CB1 | ⚠ | 1-533-518-21 | s | BREAKER, CIRCUIT 3.15A 250V |
| CN1 | | 1-580-837-11 | o | PIN, CONNECTOR (PC BOARD) 3P |
| CN2 | | 1-580-837-11 | o | PIN, CONNECTOR (PC BOARD) 3P |
| CN3 | | 1-580-561-11 | o | PIN, CONNECTOR 12P |
| CN4 | | 1-564-947-11 | s | CONNECTOR, 2P, MALE |
| CP1 | ⚠ | 1-473-667-11 | s | CONVERTER UNIT, DC-DC |
| CP2 | ⚠ | 8-749-010-64 | s | PHOTO COUPLER TLP123F2 |
| D1 | | 8-719-000-20 | s | THYRISTOR BCR10CM-12L |
| D2 | | 8-719-940-59 | s | DIODE DBB10G |
| D3 | | 8-719-106-52 | s | DIODE RD10M-B1 |
| D4 | | 8-719-157-36 | s | DIODE RD6.8M-B |
| D5 | | 8-719-024-81 | s | DIODE 1SS300-TE85L |
| D6 | | 8-719-106-52 | s | DIODE RD10M-B1 |
| D7 | | 8-719-300-70 | s | DIODE RH-1B |
| D8 | | 8-719-051-05 | s | DIODE EC10QS06-TE12L5 |
| D9 | | 8-719-051-05 | s | DIODE EC10QS06-TE12L5 |

## (PS-401 BOARD)

| Ref. No. or Q'ty | | Part No. | SP | Description |
|---|---|---|---|---|
| D12 | | 8-759-147-47 | s | IC UPC1093T |
| D13 | | 8-719-300-70 | s | DIODE RH-1B |
| D14 | | 8-719-300-70 | s | DIODE RH-1B |
| F1 | ⚠ | 1-532-808-11 | s | FUSE, RESISTOR TEMPERATURE 2A 250V |
| FB1 | | 1-535-178-00 | s | RES, FERRITE |
| IC1 | | 8-759-060-66 | s | IC TLC393CPS |
| IC2 | | 8-759-060-66 | s | IC TLC393CPS |
| IC3 | | 8-759-937-36 | s | IC TL1451ACNS |
| L1 | | 1-408-142-21 | s | INDUCTOR MICRO 22.5mH |
| L2 | | 1-543-601-11 | s | BEAD, FERRITE |
| L3 | | 1-412-474-11 | s | COIL, CHOKE 1.2mH |
| L4 | | 1-412-474-11 | s | COIL, CHOKE 1.2mH |
| PH1 | ⚠ | 8-719-820-89 | s | FPHOTO COUPLER TLP560J |
| Q1 | | 8-729-142-57 | s | TRANSISTOR 2SC3632-Z |
| Q2 | | 8-729-026-82 | s | TRANSISTOR 2SK1690 |
| Q3 | | 8-729-142-56 | s | TRANSISTOR 2SA1413-Z |
| Q4 | | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |
| Q5 | | 8-729-216-22 | s | TRANSISTOR 2SA1162 |
| Q6 | | 8-729-037-97 | s | TRANSISTOR 2SJ356-E2 |
| R1 | | 1-220-325-11 | s | CHIP, METAL 1M 5% 1/4W |
| R2 | | 1-220-325-11 | s | CHIP, METAL 1M 5% 1/4W |
| R3 | | 1-220-325-11 | s | CHIP, METAL 1M 5% 1/4W |
| R4 | | 1-220-325-11 | s | CHIP, METAL 1M 5% 1/4W |
| R5 | | 1-218-628-11 | s | CHIP, METAL 150 5% 1W |
| R6 | | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R7 | | 1-220-313-11 | s | CHIP, METAL 100K 5% 1/4W |
| R8 | | 1-220-317-11 | s | CHIP, METAL 220K 5% 1/4W |
| R9 | | 1-216-684-11 | s | CHIP, METAL 24K 0.50% 1/10W |
| R10 | | 1-216-697-91 | s | CHIP, METAL 82K 0.50% 1/10W |
| R11 | | 1-216-673-11 | s | METAL, CHIP 8.2K 0.5% 1/10W |
| R12 | | 1-216-682-11 | s | METAL, CHIP 20K 0.5% 1/10W |
| R13 | | 1-220-325-11 | s | CHIP, METAL 1M 5% 1/4W |
| R14 | | 1-220-348-11 | s | CHIP, METAL 2.2M 5% 1/4W |
| R16 | | 1-216-699-11 | s | CHIP, METAL 100K 0.50% 1/10W |
| R17 | | 1-220-293-11 | s | CHIP, METAL 47K 5% 1/4W |
| R18 | | 1-220-293-11 | s | CHIP, METAL 47K 5% 1/4W |
| R19 | | 1-220-293-11 | s | CHIP, METAL 47K 5% 1/4W |
| R20 | | 1-220-293-11 | s | CHIP, METAL 47K 5% 1/4W |
| R21 | | 1-216-295-11 | s | CHIP, CONDUCTOR 0 |
| R22 | | 1-216-689-11 | s | CHIP, METAL 39K 0.50% 1/10W |
| R23 | | 1-216-642-11 | s | METAL, CHIP 430 0.5% 1/10W |
| R24 | | 1-216-692-11 | s | CHIP, METAL 51K 0.50% 1/10W |
| R25 | | 1-216-655-11 | s | CHIP, METAL 1.5K 0.50% 1/10W |
| R26 | | 1-216-682-11 | s | METAL, CHIP 20K 0.5% 1/10W |
| R27 | | 1-218-614-11 | s | CHIP, METAL 10 5% 1W |
| R28 | | 1-216-699-11 | s | CHIP, METAL 100K 0.50% 1/10W |
| R29 | | 1-216-682-11 | s | METAL, CHIP 20K 0.5% 1/10W |
| R30 | | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R31 | | 1-216-651-11 | s | METAL, CHIP 1K 0.5% 1/10W |
| R32 | | 1-216-660-11 | s | METAL 2.4K 0.50% 1/10W |
| R33 | | 1-216-665-11 | s | METAL, CHIP 3.9K 0.5% 1/10W |
| R34 | | 1-216-666-11 | s | METAL, CHIP 4.3K 0.5% 1/10W |
| R35 | | 1-216-647-11 | s | METAL, CHIP 680 0.5% 1/10W |
| R36 | | 1-216-676-11 | s | CHIP, METAL 11K 0.50% 1/10W |
| R37 | | 1-216-637-11 | s | METAL, CHIP 270 0.5% 1/10W |

(PS-401 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R38 | 1-216-672-11 | s | METAL, CHIP 7.5K 0.5% 1/10W |
| R39 | 1-216-611-11 | s | CHIP, METAL 22 0.50% 1/10W |
| R40 | 1-216-686-11 | s | CHIP, METAL 30K 0.50% 1/10W |
| R41 | 1-216-658-11 | s | METAL, CHIP 2K 0.5% 1/10W |
| R42 | 1-216-674-11 | s | METAL, CHIP 9.1K 0.5% 1/10W |
| R43 | 1-216-699-11 | s | CHIP, METAL 100K 0.50% 1/10W |
| R44 | 1-216-683-11 | s | CHIP, METAL 22K 0.50% 1/10W |
| R45 | 1-218-761-11 | s | METAL 240K 0.50% 1/10W |
| R47 | 1-216-682-11 | s | METAL, CHIP 20K 0.5% 1/10W |
| R48 | 1-216-682-11 | s | METAL, CHIP 20K 0.5% 1/10W |
| R49 | 1-216-682-11 | s | METAL, CHIP 20K 0.5% 1/10W |
| T1 | 1-421-400-00 | s | COIL, LINE FILTER |
| T2 | 1-431-478-11 | s | TRANSFORMER, DC/DC CONVERTER |

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PS-419 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8273-225-A | o | MOUNTED CIRCUIT BOARD, PS-419 |
| C1 | 1-135-091-00 | s | TANTALUM, CHIP 1uF 20% 16V |
| C2 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C3 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C4 | 1-135-091-00 | s | TANTALUM, CHIP 1uF 20% 16V |
| C5 | 1-165-128-11 | s | CERAMIC 0.22uF 16V |
| C6 | 1-164-392-11 | s | CERAMIC 390PF 5% 50V |
| C7 | 1-164-677-11 | s | CERAMIC 0.033uF 10% 16V |
| C8 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C9 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C10 | 1-111-058-11 | s | CHIP, ELECT 150uF 20% 25V |
| C11 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C12 | 1-111-058-11 | s | CHIP, ELECT 150uF 20% 25V |
| C13 | 1-111-058-11 | s | CHIP, ELECT 150uF 20% 25V |
| C14 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C15 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C16 | 1-127-516-11 | s | ALUMN SOLID 220uF 20% 10V |
| C17 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C18 | 1-127-518-11 | s | ELECT (SOLID) 100uF 20% 16V |
| C19 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C20 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C21 | 1-165-128-11 | s | CERAMIC 0.22uF 16V |
| CN1 | 1-573-665-11 | s | CONNECTOR, PIN (PC BOARD) 14P |
| D1 | 8-719-059-52 | s | DIODE MA3J14300LSO |
| D2 | 8-719-023-53 | s | DIODE EA30QS04-F |
| FB1 | 1-543-528-11 | s | BEAD, AMORPHOUS |
| IC1 | 8-759-937-36 | s | IC TL1451ACNS |
| IC2 | 8-759-075-53 | s | IC LM35DM |
| L1 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L2 | 1-412-048-11 | s | CHOKE 65uH |
| L3 | 1-410-283-11 | s | 48uH (WITH CORE) |
| Q1 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q2 | 8-729-928-90 | s | TRANSISTOR DTC114EE |
| Q3 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q4 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q5 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q6 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q7 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q8 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| R1 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R2 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R3 | 1-218-692-11 | s | CHIP, METAL 1K 0.50% 1/16W |
| R4 | 1-218-724-11 | s | CHIP, METAL 22K 5% 1/16W |
| R5 | 1-218-736-11 | s | METAL 68K 0.50% 1/16W |
| R6 | 1-218-713-11 | s | CHIP, METAL 7.5K 0.50% 1/16W |
| R7 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R8 | 1-218-881-11 | s | CHIP, METAL 27K 0.50% 1/16W |
| R9 | 1-218-714-11 | s | METAL 8.2K 0.50% 1/16W |
| R10 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R11 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R12 | 1-218-713-11 | s | CHIP, METAL 7.5K 0.50% 1/16W |
| R13 | 1-218-724-11 | s | CHIP, METAL 22K 5% 1/16W |
| R14 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R15 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |

(PS-419 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R16 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R17 | 1-218-652-11 | s | CHIP, METAL 22 0.50% 1/16W |
| R18 | 1-218-652-11 | s | CHIP, METAL 22 0.50% 1/16W |
| R19 | 1-218-713-11 | s | CHIP, METAL 7.5K 0.50% 1/16W |
| RV1 | 1-241-829-21 | s | RES, ADJ, METAL 1K |

PS-457 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8273-760-A | o | MOUNTED CIRCUIT BOARD, PS-457 |
| C1 | 1-164-232-11 | s | CERAMIC, CHIP 0.01uF 10% 50V |
| C2 | 1-104-913-11 | s | TANTALUM, CHIP 10uF 20% 16V |
| C3 | 1-104-913-11 | s | TANTALUM, CHIP 10uF 20% 16V |
| C4 | 1-164-232-11 | s | CERAMIC, CHIP 0.01uF 10% 50V |
| C5 | 1-104-913-11 | s | TANTALUM, CHIP 10uF 20% 16V |
| C6 | 1-135-138-11 | s | TANTALUM, CHIP 10uF 20% 25V |
| C7 | 1-135-138-11 | s | TANTALUM, CHIP 10uF 20% 25V |
| C8 | 1-135-138-11 | s | TANTALUM, CHIP 10uF 20% 25V |
| C9 | 1-162-814-11 | s | CERAMIC 0.47uF 10% 50V |
| C10 | 1-162-814-11 | s | CERAMIC 0.47uF 10% 50V |
| C11 | 1-107-890-11 | s | ELECT 2200uF 20% 25V |
| C12 | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C13 | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C14 | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C15 | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C16 | 1-107-890-11 | s | ELECT 2200uF 20% 25V |
| C17 | 1-107-890-11 | s | ELECT 2200uF 20% 25V |
| C18 | 1-107-890-11 | s | ELECT 2200uF 20% 25V |
| C19 | 1-107-890-11 | s | ELECT 2200uF 20% 25V |
| CB1 | ⚠ 1-533-518-21 | s | BREAKER, CIRCUIT 3.15A 250V |
| CB2 | ⚠ 1-533-519-21 | s | BREAKER, CIRCUIT 4A 250V |
| CB3 | ⚠ 1-533-520-21 | s | BREAKER, CIRCUIT 6A 250V |
| CN1 | 1-764-101-11 | s | PIN, CONNECTOR (PC BOARD) 2P |
| CN2 | 1-580-837-11 | o | PIN, CONNECTOR (PC BOARD) 3P |
| CN3 | 1-580-535-11 | o | PIN, CONNECTOR 12P |
| CN4 | 1-580-534-11 | o | PIN, CONNECTOR (PC BOARD) 10P |
| CN5 | 1-580-544-11 | s | PIN, CONNECTOR 30P |
| D1 | 8-719-820-59 | s | DIODE 1S1588 |
| D2 | 8-719-157-69 | s | DIODE RD20M-B |
| D3 | 8-719-157-54 | s | DIODE RD12M-B |
| D4 | 8-719-157-54 | s | DIODE RD12M-B |
| D5 | 8-719-024-81 | s | DIODE 1SS300-TE85L |
| D6 | 8-719-024-81 | s | DIODE 1SS300-TE85L |
| D7 | 8-719-157-54 | s | DIODE RD12M-B |
| D8 | 8-719-024-81 | s | DIODE 1SS300-TE85L |
| D9 | 8-719-023-53 | s | DIODE EA30QS04-F |
| L1 | 1-412-029-11 | s | INDUCTOR CHIP 10uH |
| L2 | 1-412-029-11 | s | INDUCTOR CHIP 10uH |
| L3 | 1-408-549-00 | s | INDUCTOR 150uH |
| L4 | 1-408-549-00 | s | INDUCTOR 150uH |
| L5 | 1-410-253-11 | s | COIL, CHOKE (TROIDAL) 80uH |
| L6 | 1-408-549-00 | s | INDUCTOR 150uH |
| Q1 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q2 | 8-729-807-51 | s | TRANSISTOR 2SD1623-S |
| Q3 | 8-729-807-51 | s | TRANSISTOR 2SD1623-S |
| Q4 | 8-729-904-75 | s | TRANSISTOR DTD114EK |
| Q5 | 8-729-807-51 | s | TRANSISTOR 2SD1623-S |
| Q6 | 8-729-029-14 | s | TRANSISTOR DTC144EUA-T106 |
| R1 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R2 | 1-216-675-11 | s | METAL, CHIP 10K 0.5% 1/10W |
| R3 | 1-216-657-11 | s | METAL, CHIP 1.8K 0.5% 1/10W |
| R4 | 1-216-627-11 | s | CHIP, METAL 100 0.50% 1/10W |
| R5 | 1-216-657-11 | s | METAL, CHIP 1.8K 0.5% 1/10W |
| R6 | 1-216-657-11 | s | METAL, CHIP 1.8K 0.5% 1/10W |
| R7 | 1-215-907-11 | s | METAL 22 5% 3W |

(PS-457 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| RY1 | 1-755-056-11 | s | RELAY |
| RY2 | 1-755-056-11 | s | RELAY |
| RY3 | 1-515-898-11 | s | RELAY |
| T1 | 1-421-779-11 | s | FILTER, LINE |

SW-865 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8273-747-A | o | MOUNTED CIRCUIT BOARD, SW-865 |
| 1pc | 3-708-934-01 | s | CAP |
| 1pc | 3-710-803-03 | o | HOLDER, DIA. 5-9 LED |
| C1 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C2 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C3 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C4 | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C5 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| CN1 | 1-580-542-11 | o | PIN, CONNECTOR 26P |
| D1 | 8-719-946-89 | s | DIODE GL5ED5 |
| D2 | 8-719-801-78 | s | DIODE 1SS184 |
| D3 | 8-719-104-34 | s | DIODE 1S2836 |
| D4 | 8-719-104-34 | s | DIODE 1S2836 |
| D5 | 8-719-104-34 | s | DIODE 1S2836 |
| D6 | 8-719-104-34 | s | DIODE 1S2836 |
| D7 | 8-719-104-34 | s | DIODE 1S2836 |
| D8 | 8-719-104-34 | s | DIODE 1S2836 |
| D10 | 8-719-104-34 | s | DIODE 1S2836 |
| D11 | 8-719-104-34 | s | DIODE 1S2836 |
| D12 | 8-719-104-34 | s | DIODE 1S2836 |
| D13 | 8-719-104-34 | s | DIODE 1S2836 |
| D14 | 8-719-104-34 | s | DIODE 1S2836 |
| Q1 | 8-729-027-57 | s | TRANSISTOR DTC143XKA-T146 |
| R1 | 1-216-659-11 | s | METAL, CHIP 2.2K 0.5% 1/10W |
| R2 | 1-216-643-11 | s | METAL, CHIP 470 0.5% 1/10W |
| R3 | 1-216-633-11 | s | CHIP, METAL 180 0.50% 1/10W |
| R4 | 1-216-629-11 | s | CHIP, METAL 120 0.50% 1/10W |
| RV7 | 1-223-741-11 | s | RES, VAR METAL CARBON 50K |
| S1 | 1-762-532-11 | s | SWITCH, ROTARY |
| S2 | 1-762-532-11 | s | SWITCH, ROTARY |
| S3 | 1-762-122-11 | s | SWITCH, TOGGLE |
| S4 | 1-762-122-11 | s | SWITCH, TOGGLE |
| S5 | 1-571-635-11 | s | SWITCH, TOGGLE |
| S6 | 1-762-122-11 | s | SWITCH, TOGGLE |
| S7 | 1-762-133-11 | s | SWITCH, PUSH |
| S8 | 1-762-123-11 | s | SWITCH, TOGGLE |
| S9 | 1-762-123-11 | s | SWITCH, TOGGLE |
| S10 | 1-762-531-11 | s | SWITCH, TOGGLE |
| S11 | 1-473-435-11 | s | ENCODER, ROTARY |

## SW-866 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8273-761-A | o | MOUNTED CIRCUIT BOARD, SW-866 |
| 1pc | 3-708-930-01 | s | CAP |
| 1pc | 3-708-930-11 | s | CAP |
| 1pc | 3-708-930-21 | s | CAP |
| 1pc | 3-708-932-01 | s | CAP |
| 1pc | 3-708-933-01 | s | CAP |
| 1pc | 3-708-933-11 | s | CAP |
| C1 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C2 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C3 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C4 | 1-163-038-00 | s | CHIP, CERAMIC 0.1uF 25V |
| C5 | 1-104-851-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| CN1 | 1-580-544-11 | s | PIN, CONNECTOR 30P |
| D1 | 8-719-104-34 | s | DIODE 1S2836 |
| D2 | 8-719-104-34 | s | DIODE 1S2836 |
| D3 | 8-719-104-34 | s | DIODE 1S2836 |
| D4 | 8-719-104-34 | s | DIODE 1S2836 |
| D5 | 8-719-104-34 | s | DIODE 1S2836 |
| D6 | 8-719-104-34 | s | DIODE 1S2836 |
| D7 | 8-719-104-34 | s | DIODE 1S2836 |
| D8 | 8-719-104-34 | s | DIODE 1S2836 |
| D9 | 8-719-104-34 | s | DIODE 1S2836 |
| D10 | 8-719-104-34 | s | DIODE 1S2836 |
| Q1 | 8-729-027-57 | s | TRANSISTOR DTC143XKA-T146 |
| Q2 | 8-729-027-57 | s | TRANSISTOR DTC143XKA-T146 |
| Q3 | 8-729-027-57 | s | TRANSISTOR DTC143XKA-T146 |
| Q4 | 8-729-027-57 | s | TRANSISTOR DTC143XKA-T146 |
| Q5 | 8-729-027-57 | s | TRANSISTOR DTC143XKA-T146 |
| Q6 | 8-729-027-57 | s | TRANSISTOR DTC143XKA-T146 |
| R1 | 1-216-633-11 | s | CHIP, METAL 180 0.50% 1/10W |
| R2 | 1-216-633-11 | s | CHIP, METAL 180 0.50% 1/10W |
| R3 | 1-216-633-11 | s | CHIP, METAL 180 0.50% 1/10W |
| R4 | 1-216-633-11 | s | CHIP, METAL 180 0.50% 1/10W |
| R5 | 1-216-637-11 | s | METAL, CHIP 270 0.5% 1/10W |
| R6 | 1-216-637-11 | s | METAL, CHIP 270 0.5% 1/10W |
| RV1 | 1-223-741-11 | s | RES, VAR METAL CARBON 50K |
| RV2 | 1-223-741-11 | s | RES, VAR METAL CARBON 50K |
| RV3 | 1-223-741-11 | s | RES, VAR METAL CARBON 50K |
| RV4 | 1-223-741-11 | s | RES, VAR METAL CARBON 50K |
| S1 | 1-762-115-11 | s | SWITCH, PUSH |
| S2 | 1-762-115-11 | s | SWITCH, PUSH |
| S3 | 1-762-786-11 | s | SWITCH, PUSH (3 KEY) |
| S4 | 1-762-532-11 | s | SWITCH, ROTARY |
| S5 | 1-762-129-11 | s | SWITCH, PUSH |
| S6 | 1-762-129-21 | s | SWITCH, PUSH |
| S7 | 1-762-129-31 | s | SWITCH, PUSH |
| S8 | 1-762-131-11 | s | SWITCH, PUSH |
| S9 | 1-762-132-11 | s | SWITCH, PUSH |
| S10 | 1-762-132-21 | s | SWITCH, PUSH |

## FRAME

| Ref.No. or Qt'y | Part No. | SP | Description |
|---|---|---|---|
| | 1-777-289-11 | o | CORD, CONNECTION (12P-12P) |
| CABLE ASSY | | | |
| CN101 | ⚠ 1-566-358-11 | s | CONNECTOR D-SUB,50P MALE "CA" |
| | ⚠ 1-564-774-11 | s | CONTACT |
| | 1-564-775-11 | s | CONTACT |
| CN1F(TO PS-401 BOARD) | | | |
| | ⚠ 1-562-211-11 | o | HOUSING, 3P |
| | ⚠ 1-562-210-11 | o | CONTACT, FEMALE AWG18-22 |
| CN11F(TO CN-1389 BOARD) | | | |
| | 1-580-585-11 | o | HOUSING, 18P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN12F(TO CN-1389 BOARD) | | | |
| | 1-580-586-11 | o | HOUSING, 20P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| HARNESS(AC F-D) | | | |
| CN1F(TO CN-1390 BOARD) | | | |
| | ⚠ 1-956-255-11 | o | HARNESS, SUB (AC F-D) |
| | ⚠ 1-562-211-11 | o | HOUSING, 3P |
| | ⚠ 1-562-210-11 | o | CONTACT, FEMALE AWG18-22 |
| HARNESS(AC P-F) | | | |
| CN2F(TO PS-401 BOARD) | | | |
| | ⚠ 1-956-254-11 | o | HARNESS, SUB (AC P-F) |
| | ⚠ 1-562-211-11 | o | HOUSING, 3P |
| | ⚠ 1-562-210-11 | o | CONTACT, FEMALE AWG18-22 |
| HARNESS(AT MAIN) | | | |
| CN5F(TO AT-104 BOARD) | | | |
| | 1-580-587-11 | o | HOUSING, 22P |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN10F(TO CN-1389 BOARD) | | | |
| | 1-580-587-11 | o | HOUSING, 22P |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| HARNESS(AT RET) | | | |
| CN2F(TO AT-104 BOARD) | | | |
| | 1-695-212-11 | o | HOUSING, 6P |
| | 1-695-215-11 | o | CONTACT, FEMALE |
| CN4F(TO CN-1389 BOARD) | | | |
| | 1-569-199-31 | o | HOUSING, 6P |
| | 1-569-194-11 | o | CONTACT, FEMALE AWG24-30 |
| HARNESS(BREAKER) | | | |
| CN2F(TO CN-1389 BOARD) | | | |
| | 1-580-591-11 | o | HOUSING, 30P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| CN5F(TO PS-457 BOARD) | | | |
| | 1-580-591-11 | o | HOUSING, 30P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| HARNESS(CN PANEL) | | | |
| CN1F(TO CN-1384 BOARD) | | | |
| | 1-580-582-11 | o | HOUSING, 12P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN2F(TO CN-1384 BOARD) | | | |
| | 1-580-581-11 | o | HOUSING, 10P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN3F(TO CN-1389 BOARD) | | | |
| | 1-580-588-11 | o | HOUSING, 24P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |

(FRAME)

| Ref.No. or Qt'y | Part No. | SP | Description |
|---|---|---|---|
| HARNESS(DC 5V) | | | |
| CN2F(TO CN-1374 BOARD) | | | |
| | 1-580-581-11 | o | HOUSING, 10P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| CN4F(TO PS-457 BOARD) | | | |
| | 1-580-581-11 | o | HOUSING, 10P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| HARNESS(DC CN-F) | | | |
| CN7F(TO CN-1389 BOARD) | | | |
| ⚠ | 1-956-252-11 | o | HARNESS, SUB (DC CN-F) |
| | 1-562-352-11 | o | HOUSING, 2P |
| | 1-562-210-11 | o | CONTACT, FEMALE AWG18-22 |
| HARNESS(DC-DC) | | | |
| CN3F(TO PS-401 BOARD) | | | |
| | 1-580-582-11 | o | HOUSING, 12P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| CN3F(TO PS-457 BOARD) | | | |
| | 1-580-582-11 | o | HOUSING, 12P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| HARNESS(DC F-D) | | | |
| CN2F(TO CN-1390 BOARD) | | | |
| ⚠ | 1-956-253-11 | o | HARNESS, SUB (DC F-D) |
| | 1-562-352-11 | o | HOUSING, 2P |
| | 1-562-210-11 | o | CONTACT, FEMALE AWG18-22 |
| HARNESS(DOWN-DSUB) | | | |
| CN112 ⚠ | 1-956-244-11 | o | HARNESS (DOWN-DSUB) "CA" |
| CN5F(TO CN-1383 BOARD) | | | |
| | 1-580-583-11 | o | HOUSING, 14P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| HARNESS(EXT DC IN) | | | |
| CN111 | 1-509-177-31 | s | CONNECTOR, 4P FEMALE "EXT DC IN" |
| CN2F(TO PS-457 BOARD) | | | |
| | 1-562-211-11 | o | HOUSING, 3P |
| | 1-562-210-11 | o | CONTACT, FEMALE AWG18-22 |
| HARNESS(EXT DC OUT) | | | |
| CN105 | 1-509-185-31 | s | CONNECTOR, 4P FEMALE "EXT DC OUT" |
| CN1F(TO PS-457 BOARD) | | | |
| | 1-562-352-11 | o | HOUSING, 2P |
| | 1-562-210-11 | o | CONTACT, FEMALE AWG18-22 |
| HARNESS(INCOM1) | | | |
| CN103 | 1-509-177-31 | s | CONNECTOR, 4P, FEMALE "INCOM1" *1 |
| | 1-563-159-11 | s | CONNECTOR, 5P, FEMALE "INCOM1" *2 |
| CN13F(TO CN-1389 BOARD) | | | |
| | 1-569-199-11 | o | HOUSING, 6P |
| | 1-569-192-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-569-194-11 | o | CONTACT, FEMALE AWG24-30 |
| HARNESS(INCOM2) | | | |
| CN104 | 1-509-184-31 | s | CONNECTOR, XLR 3P,MALE "INCOM2" *1 |
| | 1-563-159-11 | s | CONNECTOR, 5P, FEMALE "INCOM2" *2 |
| CN14F(TO CN-1389 BOARD) | | | |
| | 1-569-199-21 | o | HOUSING, 6P |
| | 1-569-192-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-569-194-11 | o | CONTACT, FEMALE AWG24-30 |
| HARNESS(LENS 12P) | | | |
| CN107 | 1-562-381-22 | s | CONNECTOR, 12P, MALE "LENS" |
| CN4F(TO CN-1383 BOARD) | | | |
| | 1-580-582-11 | o | HOUSING, 12P |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |

*1 : 10001 through 11000, 13001 and higher
*2 : 11001 through 13000

(FRAME)

| Ref.No. or Qt'y | Part No. | SP | Description |
|---|---|---|---|
| HARNESS(LENS 36P) | | | |
| CN108 | 1-956-243-11 | o | HARNESS (LENS36P) |
| | 1-509-892-31 | o | CONNECTOR 36P, MALE "LENS" |
| CN1F(TO CN-1383 BOARD) | | | |
| | 1-580-591-11 | o | HOUSING, 30P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN2F(TO CN-1383 BOARD) | | | |
| | 1-580-579-11 | o | HOUSING, 6P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| HARNESS(MONITOR) | | | |
| CN110 | 1-569-253-21 | s | CONNECTOR, BNC "MONITOR" |
| CN15F(TO CN-1389 BOARD) | | | |
| | 1-569-195-31 | s | HOUSING, 2P |
| | 1-569-192-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-569-194-11 | o | CONTACT, FEMALE AWG24-30 |
| HARNESS(POWER LENS) | | | |
| CN106 | 1-562-782-21 | s | CONNECTOR 10P FEMALE "POWER LENS" |
| CN9F(TO CN-1389 BOARD) | | | |
| | 1-580-581-11 | o | HOUSING, 10P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| HARNESS(PROMPT) | | | |
| CN109 | 1-569-253-21 | s | CONNECTOR, BNC "PROMPT" |
| CN16F(TO CN-1389 BOARD) | | | |
| | 1-569-195-11 | o | HOUSING, 2P |
| | 1-569-192-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-569-194-11 | o | CONTACT, FEMALE AWG24-30 |
| HARNESS(SW-865) | | | |
| CN1F(TO SW-865 BOARD) | | | |
| | 1-580-589-11 | o | HOUSING, 26P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN2F(TO CN-1371 BOARD) | | | |
| | 1-580-589-11 | o | HOUSING, 26P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| HARNESS(SW-866) | | | |
| CN1F(TO SW-866 BOARD) | | | |
| | 1-580-591-11 | o | HOUSING, 30P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN3F(TO CN-1371 BOARD) | | | |
| | 1-580-591-11 | o | HOUSING, 30P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| HARNESS(UP-DSUB) | | | |
| CN3F(TO CN-1390 BOARD) | | | |
| | 1-580-583-11 | o | HOUSING, 14P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN8F(TO CN-1389 BOARD) | | | |
| | 1-580-580-11 | o | HOUSING, 8P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |

(FRAME)

| Ref.No. or Qt'y | Part No. | SP | Description |
|---|---|---|---|
| HARNESS(VF) | | | |
| CN102 | 1-956-262-11 | o | HARNESS (VF) |
| | 1-562-989-11 | s | CONNECTOR,MULTI 25P,FEMALE "VF" |
| | 1-562-580-21 | o | CONTACT, FEMALE AWG24-28 |
| CN3F(TO AT-104 BOARD) | | | |
| | 1-695-892-11 | o | HOUSING, 12P |
| | 1-695-215-11 | o | CONTACT, FEMALE |
| CN17F(TO CN-1389 BOARD) | | | |
| | 1-580-582-11 | o | HOUSING, 12P |
| | 1-573-176-11 | o | CONTACT, FEMALE AWG22-26 |
| CN4 | 1-562-222-21 | s | CONNECTOR, 6P, FEMALE "RET CONT" |
| CN5 | 1-563-929-11 | s | CONNECTOR, 4P, FEMALE "DC OUT" |
| CN10 | 1-565-443-11 | o | CONNECTOR, 10P, FEMALE "TRACKER" |
| S101 | ⚠ 1-762-768-11 | s | SWITCH, PUSH (POWER) |

## 3-3. Supplied Accessories

| Ref.No. or Qt'y | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8273-759-A | o | ADAPTOR ASSY, TRIPOD |
| 1pc | 1-777-290-11 | o | CORD, CONNECTION (4P) |
| 2pcs | 2-280-511-01 | o | BRACKET, ADJUSTMENT, ANGLE |
| 2pcs | 3-185-945-01 | s | PLATE, NO |
| 2pcs | 3-186-502-01 | s | BAND, CLAMP |
| 1pc | 7-721-130-54 | s | WRENCH, BALL POINT L (BL3MM) |
| 1pc | 7-721-130-55 | s | WRENCH, BALL POINT L (BL4MM) |

## 3-4. Optional Fixtures

| Part No. | SP | Description |
|---|---|---|
| J-6274-410-A | o | HKCA EXTENSION HARNESS |
| 7-662-006-02 | s | COMPOUND SILICON(50G) |

## 3-5. Changed Parts

NOTE: The numbers identified by marking with ) are matching with each serial numbers.
See the table matched with each serial numbers.

701) Serial No. 10086 and higher

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PS-401 BOARD
---

701) CP2 8-719-053-15 s PHOTO COUPLER PS2701-1-E3-L ---> 8-749-010-64 s PHOTO COUPLER TLP123F2

# Section 4
# Semiconductor Pin Assignments

ここに記載されている半導体は，それぞれの機能を等価的に表したものです。　なお，互換性のない型名を併記していることがありますので，部品を交換するときは，Spare Partsの章を参照してください。
等価回路はＩＣメーカーのデータブックに従いました。

Semiconductors of which functions are equivalent are described here. For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.


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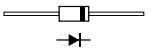
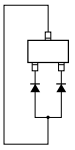
## DIODE



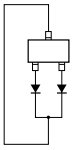
1S1588
1S2348H
RH-1C

-TOP VIEW-



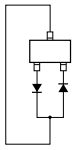
1S2836
1SS300-TE85L
1S2835-T1

-TOP VIEW-



1SS184
MA141WK
1SS184-TE85L
1SS301-TE85L

-TOP VIEW-



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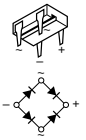
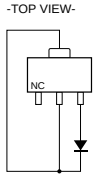
MA3J14300LSO
MA3J74200LSO
MA742-TX
1SS302-TE85L



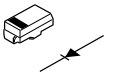
DBB10G

-TOP VIEW-

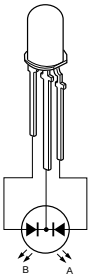



EA30QS04-F
EA30QS04-F-TE16F2

-TOP VIEW-



EC10QS06-TE12L5

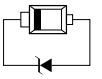



GL5ED5 ;A = RED,B = YELGRN

-TOP VIEW-

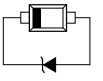
RD10M-B1
RD12M-B
RD20M-B
RD6.8M-B
RD10M-T1B1
RD12M-T1B
RD20M-T1B
RD6.8M-T1B

-TOP VIEW-



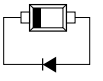
RD10UJN-T1

-TOP VIEW-



RD12SB3-T1

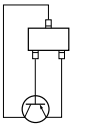
-TOP VIEW-



SC802-04
SC802-04-TE12RA

## TRANSISTOR

-TOP VIEW-



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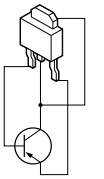
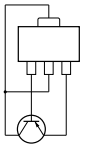
2SA1611-M6
2SA812-T1M7
2SA1611-T1M7



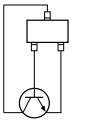
2SA1413-Z

-TOP VIEW-



2SB1121-ST
2SB798-DL
2SB1114-T1ZL
2SA1213Y-TE12L

-TOP VIEW-



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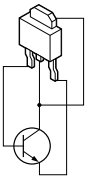
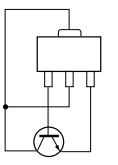
2SC4176-T1B35
2SC4177-T1L7



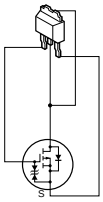
2SC3632-Z

-TOP VIEW-

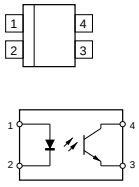


2SD1621-ST
2SD1623-S
2SD1614-T1XL
2SC2873Y-TE12L

## OTHERS



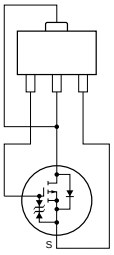
2SJ182S




PS2701-1-E3-L
PS2701-1-E3

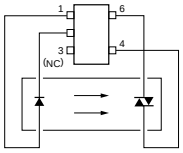



-TOP VIEW-



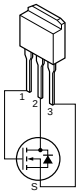

2SJ356-E2

-TOP VIEW-



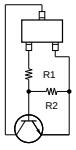

TLP560J

-TOP VIEW-




2SK1690

-TOP VIEW-



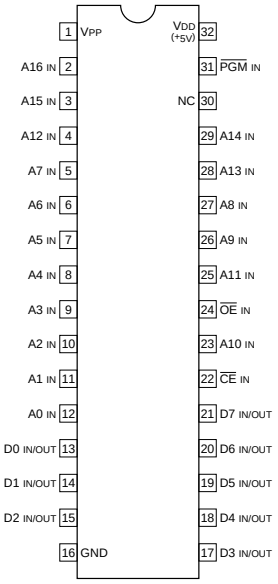

DTC114EE (R1 = 10 K,R2 = 10 K)
DTC143XKA-T146 (R1 = 4.7 K,R2 = 10 K)
DTC143XU (R1=4.7K,R2=10K)
DTC144EUA-T106
DTD114EK (R1 = 10 K,R2 = 10 K)
DTC114EE-TL
DTC143XUA-T106
DTD114EK-T-146

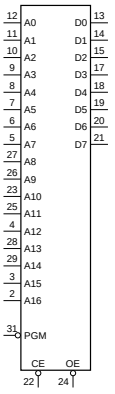
# IC

## AM27C010-200DC (AMD)

C-MOS 1M(131072×8)-BIT EPROM

-TOP VIEW-




A0-A16 ; ADDRESS INPUTS
D0-D7 ; DATA INPUTS/OUTPUTS
CE ; CHIP ENABLE INPUT
OE ; OUTPUT ENABLE INPUT
PGM ; PROGRAM INPUT/OUTPUT ENABLE INPUT

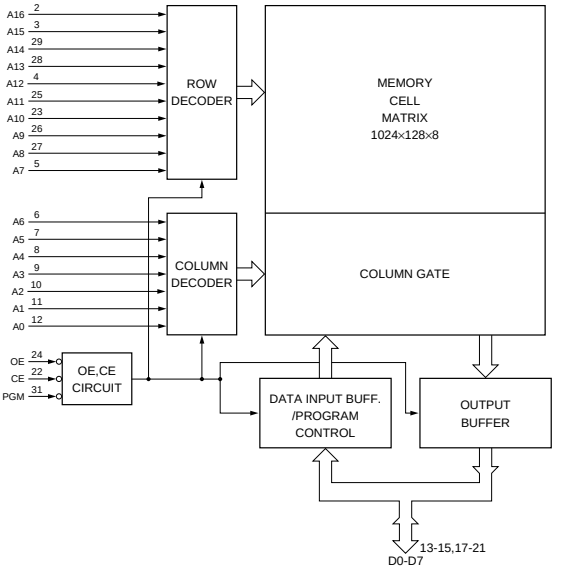
READ MODE($V_{DD}$ = +5V,$V_{PP}$ = +5V)

| OE | CE | PGM | A0-A16 | D0-D7 | FUNCTION |
|---|---|---|---|---|---|
| 0 | 0 | 1 | A IN | D OUT | ACTIVE |
| X | 1 | X | X | HI-Z | STANDBY |
| 1 | 0 | X | A IN | HI-Z | OUTPUT DISABLE |
| X | 0 | 0 | A IN | | |

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH-IMPEDANCE

PROGRAM MODE($V_{DD}$ = +6V,$V_{PP}$ = +12.5V)

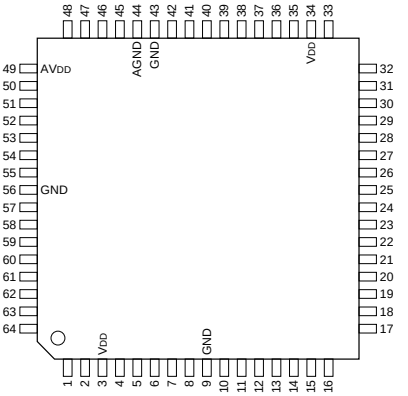
| MODE | OE | CE | PGM | A0-A16 | D0-D7 | FUNCTION |
|---|---|---|---|---|---|---|
| 1-BYTE PROGRAM MODE | 1 | 0 | 0 | A IN | D IN | PROGRAM |
| | 0 | 0 | 1 | A IN | D OUT | VERIFY |
| | 1 | 0 | 1 | A IN | HI-Z | PROGRAM INHIBIT |
| 4-BYTE PROGRAM MODE | 1 | 1 | 1 | A IN | D IN | PROGRAM DATA INPUT |
| | 0 | 1 | 0 | A0,A1 ; X<br>A2-A16 ; A IN | HI-Z | PROGRAM |
| | 0 | 0 | 1 | A IN | D OUT | VERIFY |
| | 0 | 1 | 1 | A IN | HI-Z | PROGRAM INHIBIT |

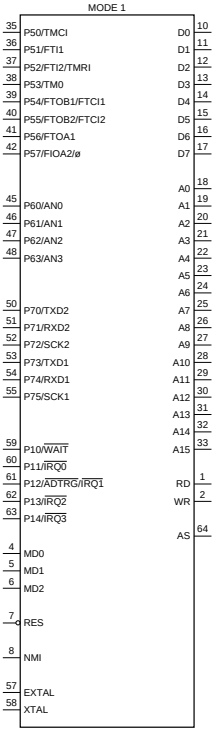


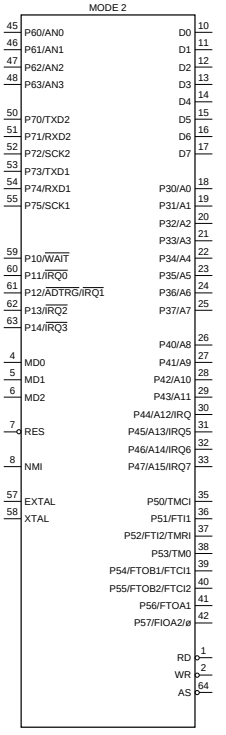

## HD6475208F10 (HITACHI)

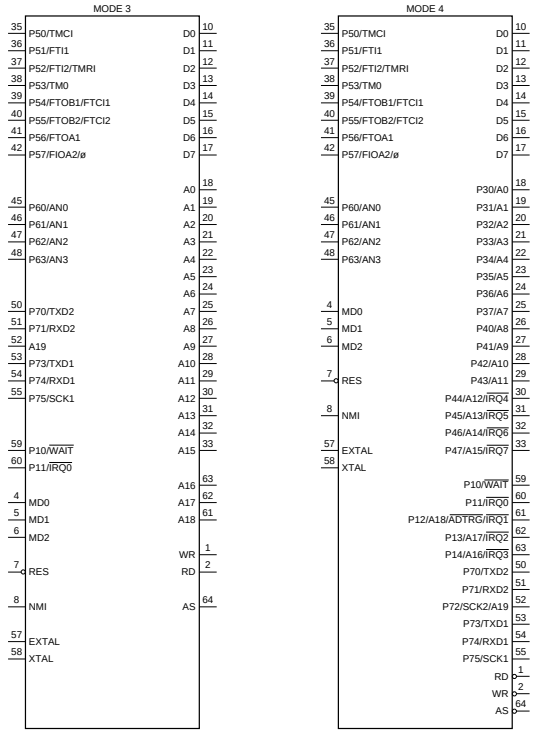
C-MOS

-TOP VIEW-



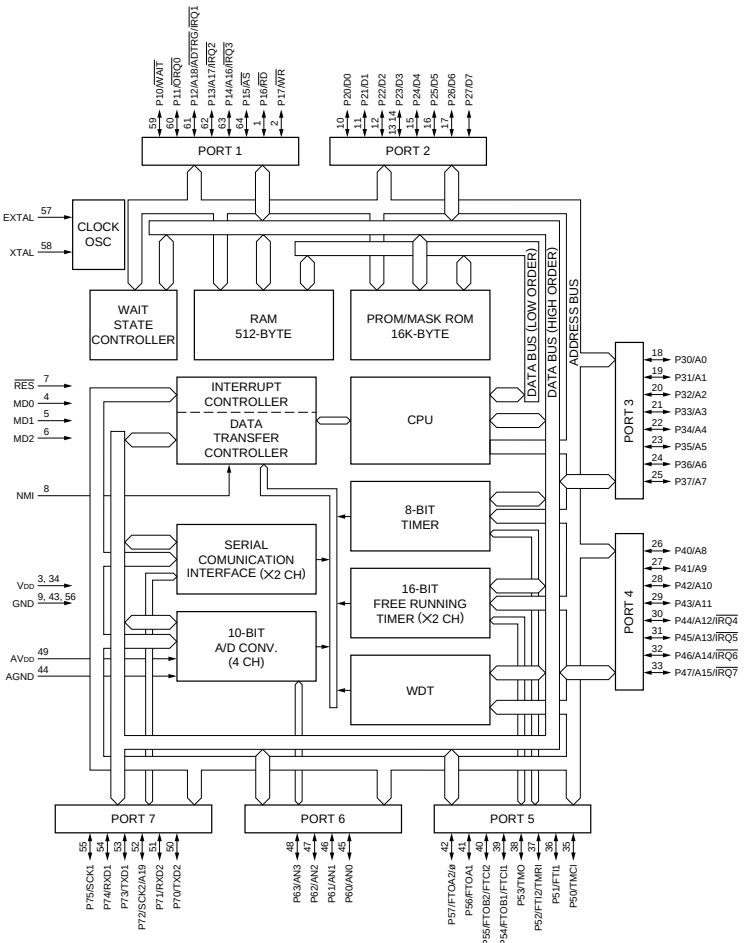



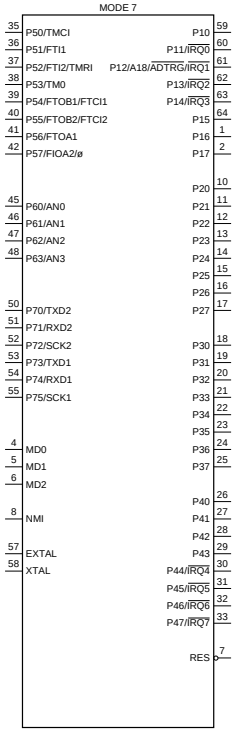











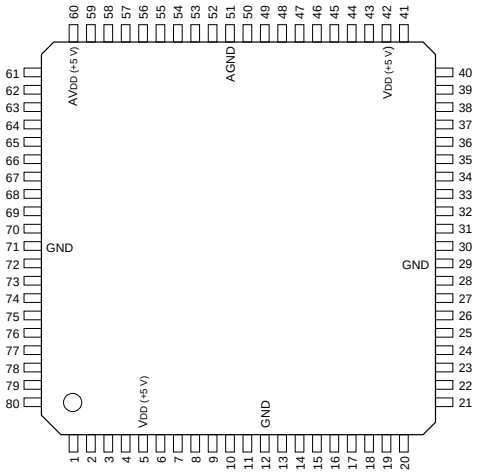

| INPUTS | | | OPERATION MODE | CONTENTS |
|---|---|---|---|---|
| MD2 | MD1 | MD0 | | |
| 0 | 0 | 1 | MODE 1 | EXTENSION MINIMUM MODE (ROM INVALID) |
| 0 | 1 | 0 | MODE 2 | EXTENSION MINIMUM MODE (ROM VALID) |
| 0 | 1 | 1 | MODE 3 | EXTENSION MAXIMUM MODE (ROM INVALID) |
| 1 | 0 | 0 | MODE 4 | EXTENSION MAXIMUM MODE (ROM VALID) |
| 1 | 1 | 1 | MODE 7 | SINGLE CHIP MODE |

0; LOW LEVEL
1; HIGH LEVEL

## HD6475328F10 (HITACHI)

C-MOS 16-BIT MICROPROCESSOR

— TOP VIEW —




| PIN No. | I/O | SIGNAL | PIN No. | I/O | SIGNAL | PIN No. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|
| 1 | I/O | P21/R/$\overline{W}$ | 28 | I/O | P47/A7 | 55 | I/O | P83/AN3 |
| 2 | I/O | P22/$\overline{DS}$ | 29 | — | GND | 56 | I/O | P84/AN4 |
| 3 | I/O | P23/$\overline{RD}$ | 30 | I/O | P50/A8 | 57 | I/O | P85/AN5 |
| 4 | I/O | P24/$\overline{WR}$ | 31 | I/O | P51/A9 | 58 | I/O | P86/AN6 |
| 5 | — | VDD | 32 | I/O | P52/A10 | 59 | I/O | P87/AN7 |
| 6 | I | MD0 | 33 | I/O | P53/A11 | 60 | — | AVDD |
| 7 | I | MD1 | 34 | I/O | P54/A12 | 61 | I/O | P90/FTOA2 |
| 8 | I | MD2 | 35 | I/O | P55/A13 | 62 | I/O | P91/FTOA3 |
| 9 | I | $\overline{STBY}$ | 36 | I/O | P56/A14 | 63 | I/O | P92/PW1 |
| 10 | I | $\overline{RES}$ | 37 | I/O | P57/A15 | 64 | I/O | P93/PW2 |
| 11 | I | NMI | 38 | I/O | P60/A16 | 65 | I/O | P94/PW3 |
| 12 | — | GND | 39 | I/O | P61/A17 | 66 | I/O | P95/TXD |
| 13 | I/O | P30/D0 | 40 | I/O | P62/A18 | 67 | I/O | P96/RXD |
| 14 | I/O | P31/D1 | 41 | I/O | P63/A19 | 68 | I/O | P97/SCK |
| 15 | I/O | P32/D2 | 42 | — | VDD | 69 | I | EXTAL |
| 16 | I/O | P33/D3 | 43 | I/O | P70/TMCI | 70 | I | XTAL |
| 17 | I/O | P34/D4 | 44 | I/O | P71/FTI1 | 71 | — | VSS |
| 18 | I/O | P35/D5 | 45 | I/O | P72/FTI2 | 72 | I/O | P10/ø |
| 19 | I/O | P36/D6 | 46 | I/O | P73/FTI3/TMRI | 73 | I/O | P11/E |
| 20 | I/O | P37/D7 | 47 | I/O | P74/FTOB1/FTCI1 | 74 | I/O | P12/$\overline{BACK}$ |
| 21 | I/O | P40/A0 | 48 | I/O | P75/FTOB2/FTCI2 | 75 | I/O | P12/$\overline{BREQ}$ |
| 22 | I/O | P41/A1 | 49 | I/O | P76/FTOB3/FTCI3 | 76 | I/O | P12/$\overline{WAIT}$ |
| 23 | I/O | P42/A2 | 50 | O | P77/FTOA1 | 77 | I/O | P12/$\overline{IRQ0}$ |
| 24 | I/O | P43/A3 | 51 | — | AGND | 78 | I/O | P12/$\overline{IRQ1}$ |
| 25 | I/O | P44/A4 | 52 | I/O | P80/AN0 | 79 | I/O | P12/TMO |
| 26 | I/O | P45/A5 | 53 | I/O | P81/AN1 | 80 | I/O | P12/$\overline{AS}$ |
| 27 | I/O | P46/A6 | 54 | I/O | P82/AN2 | | | |

**INPUT**

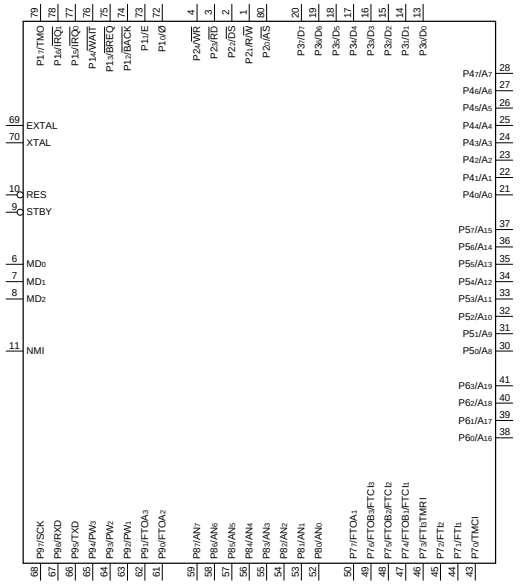
| | |
|---|---|
| AN0-AN7 | ; ANALOG INPUT |
| BREQ | ; BUS REQUEST |
| EXTAL | ; CONNECTED TO CRYSTAL OSCILLATOR. |
| ETCI1-FTCI3 | ; FRT COUNTER CLOCK INPUT (CHANNEL 1 TO 3) |
| FTI1-FTI3 | ; FRT INPUT CAPTURE INPUT (CHANNEL 1 TO 3) |
| IRQ0, 1 | ; INTERRUPTION REQUEST 0 AND 1 |
| MD0-MD2 | ; MODE SETTING |
| NMI | ; NON MASKABLE INTERRUPTION |
| P80-P87 | ; PORT 8 |
| RES | ; RESET |
| RXD | ; RECEIVE DATA |
| STBY | ; STANDBY |
| TMCI | ; 8-BIT TIMER CLOCK INPUT |
| TMRI | ; 8-BIT TIMER COUNTER RESET INPUT |
| WAIT | ; WAIT |
| XTAL | ; CONNECTED TO CRYSTAL OSCILLATOR. |

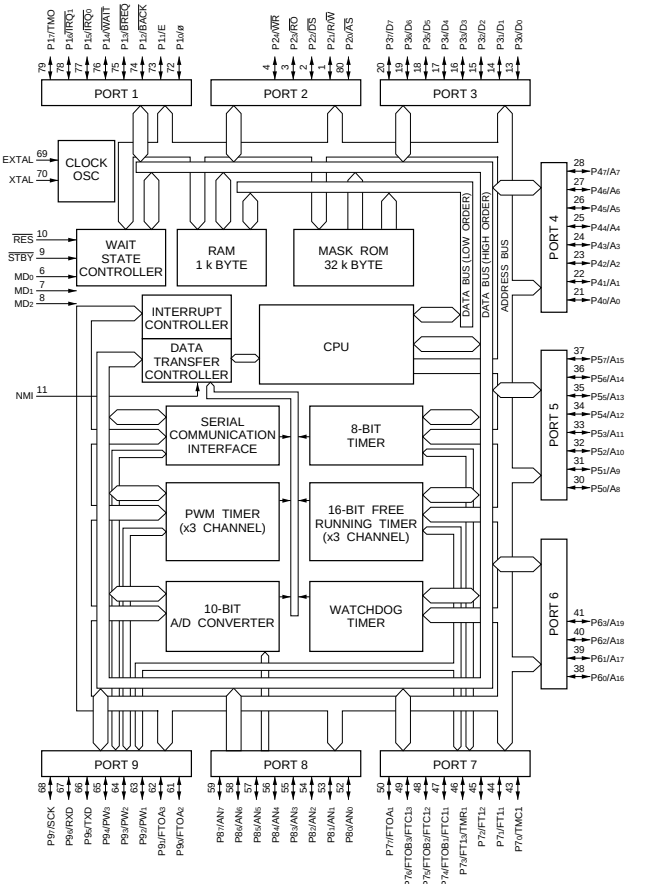
**OUTPUT**

| | |
|---|---|
| A0-A19 | ; ADDRESS BUS |
| AS | ; ADDRESS STROBE |
| BACK | ; BUS REQUEST ACKNOWLEDGE |
| DS | ; DATA STROBE |
| E | ; ENABLE CLOCK |
| FTOA1-FTOA3 | ; FRT OUTPUT COMPARE A OUTPUT (CHANNEL 1 TO 3) |
| FTOB1-FTOB3 | ; FRT OUTPUT COMPARE B OUTPUT (CHANNEL 1 TO 3) |
| PW1-PW3 | ; PWM TIMER OUTPUT (CHANNEL 1 TO 3) |
| R/W | ; READ/WRITE |
| RD | ; READ |
| TMO | ; 8-BIT TIMER OUTPUT |
| TXD | ; SEND DATA |
| WR | ; WRITE |
| ø | ; SYSTEM CLOCK |

**INPUT/OUTPUT**

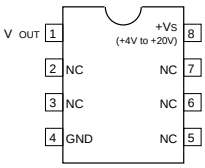
| | |
|---|---|
| D0-D7 | ; DATA BUS |
| P10-P17 | ; PORT 1 |
| P20-P24 | ; PORT 2 |
| P30-P37 | ; PORT 3 |
| P40-P47 | ; PORT 4 |
| P50-P57 | ; PORT 5 |
| P60-P63 | ; PORT 6 |
| P70-P77 | ; PORT 7 |
| P90-P97 | ; PORT 9 |
| SCK | ; SERIAL CLOCK INPUT/OUTPUT |

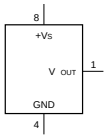


## LM35DM (NSC)FLAT PACKAGE

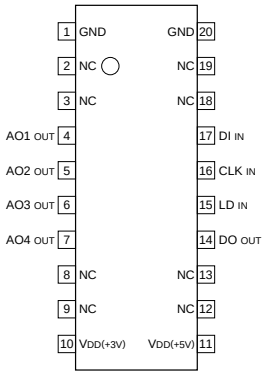
TEMPERATURE SENSOR
—TOP VIEW—

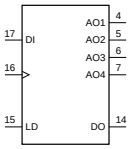



## MB88351PFV (FUJITSU)FLAT PACKAGE
## MB88351PFV-ER

C-MOS 12-BIT D / A CONVERTER WITH OPERATIONAL AMPLIFIER
-TOP VIEW-



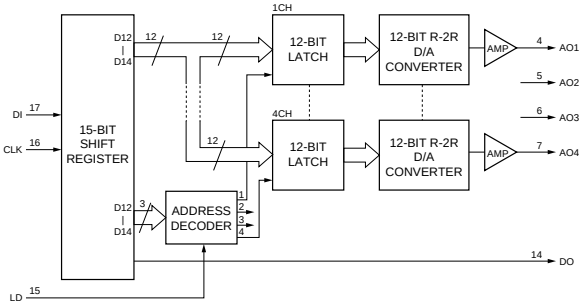




**INPUT**
CLK ; CHIFT CLOCK
DI ; SERIAL DATA
LD ; DECODER AND D/A REGISTER TO LOAD

**OUTPUT**
AO1 - AO4 ; ANALOG DATA
DO ; MBS BIT DATA IN 15-BIT SHIFT REGISTER

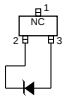
| D12 | D13 | D14 | ADDRESS SELECT |
|---|---|---|---|
| 0 | 0 | 0 | DON'T CARE |
| 0 | 0 | 1 | AO1 SELECT |
| 0 | 1 | 0 | AO2 SELECT |
| 0 | 1 | 1 | AO3 SELECT |
| 1 | 0 | 0 | AO4 SELECT |
| 1 | 0 | 1 | DON'T CARE |
| 1 | 1 | 0 | DON'T CARE |
| 1 | 1 | 1 | DON'T CARE |

0 ; LOW LEVEL
1 ; HIGH LEVEL



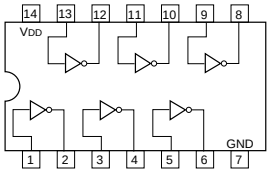

## LM4040AIM3-2.5 (NS)
## LM4040BIM3-5.0 (NS)
## LM4040BIM3X-5.0

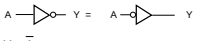
PRECISION MICROPOWER SHUNT VOLTAGE REFERENCE
— TOP VIEW —




## SN74HC04APW-E20 (TI)FLAT PACKAGE
## SN74HC04APW-E05

C-MOS HEX INVERTERS
-TOP VIEW-




$Y = \overline{A}$

| A | Y |
|---|---|
| 0 | 1 |
| 1 | 0 |

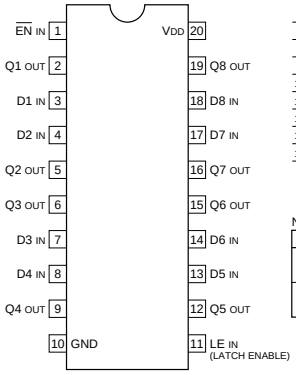
0 ; LOW LEVEL
1 ; HIGH LEVEL

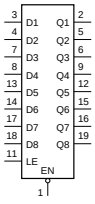
NOTE:

| TYPE | VDD |
|---|---|
| 74HCT04 TYPE | +5V |
| TC74AC04 TYPE<br>TC74VHC04 TYPE | +2 to +5.5V |
| 74ACT04 TYPE | +4.5 to +5.5V |
| OTHER TYPES | +2 to +6V |

## SN74HC373ANS (TI)FLAT PACKAGE
## SN74HC373ANS-E05

C-MOS 3-STATE OUTPUT OCTAL LATCHES
-TOP VIEW-



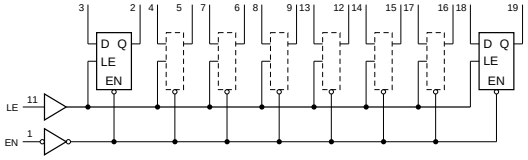




| INPUTS | | | OUT |
|---|---|---|---|
| EN | D | LE | Q |
| 0 | 1 | 1 | 1 |
| 0 | 0 | 1 | 0 |
| 0 | × | 0 | Qo |
| 1 | × | × | HI-Z |

HI-Z ; HIGH IMPEDANCE
0 ; LOW LEVEL
1 ; HIGH LEVEL
× ; DON'T CARE

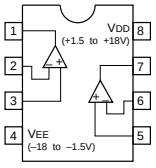
NOTE;

| TYPE | VDD |
|---|---|
| AC<br>HC | +2 to +6V |
| ACT<br>HCT | +5V |



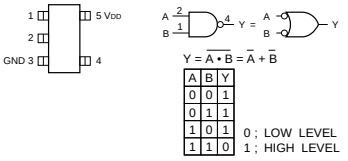

## TL062CPW (TI)FLAT PACKAGE
## TL062CPW-E05

OPERATIONAL AMPLIFIER
(J FET INPUT)
—TOP VIEW—



## TC7S00FU(TE85R) (TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT NAND GATE
— TOP VIEW —



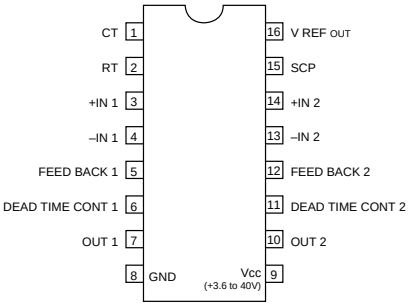

| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

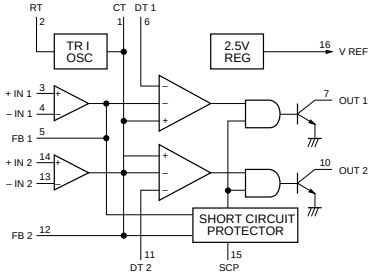
0 ; LOW LEVEL
1 ; HIGH LEVEL

| TYPE | VDD |
|---|---|
| 7S00F<br>7S00FU | +2 to +6 V |
| 4S11F<br>4SU11F | +3 to +18 V |
| 7SH00FU | +2 to +5.5 V |

## TL1451ACNS (TI)FLAT PACKAGE
## TL1451ACNS-E05

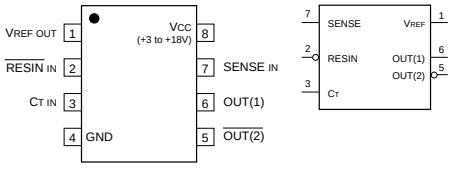
DUAL PWM POWER CONTROLLER
-TOP VIEW-

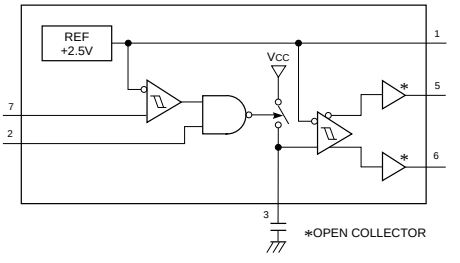



## TL7705CPS-B (TI)FLAT PACKAGE
## TL7705CPS-B-E05

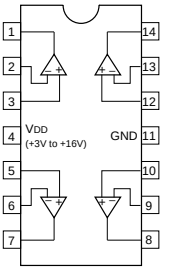
POWER VOLTAGE SUPERVISOR
—TOP VIEW—



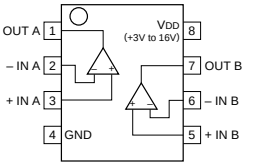

## TLC27L4CPW (TI)
## TLC27L4CPW-E05

C-MOS OPERATIONAL AMPLIFIER
—TOP VIEW—



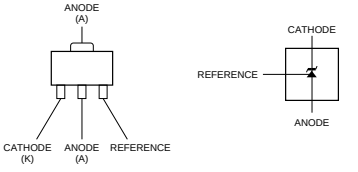

## TLC393CPS (TI)FLAT PACKAGE
## TLC393CPS-E05

C-MOS LOW VOLTAGE COMPARATOR
-TOP VIEW-



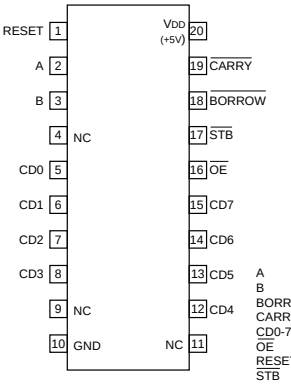

## UPC1093T (NEC)
## UPC1093T-E1

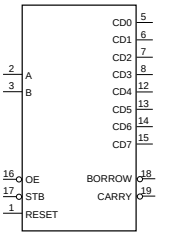
REGULATOR (VARIABLE VOLTAGE SHUNT)
-TOP VIEW-



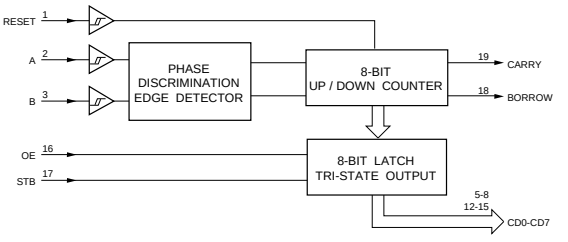

## UPD4702G (NEC)

C-MOS INCREMENTAL ENCODER 8-BIT UP DOWN COUNTER
—TOP VIEW—

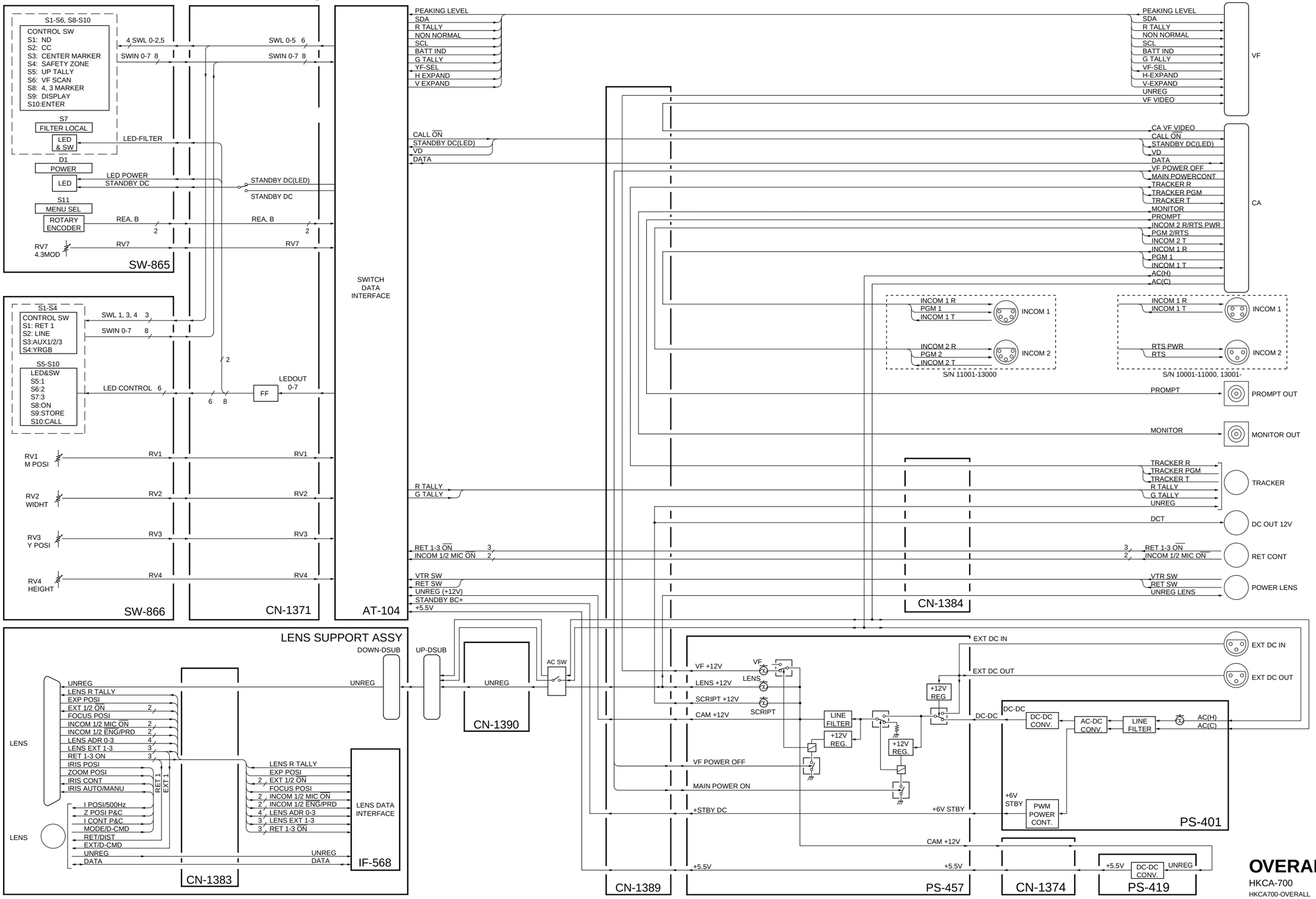



| | |
|---|---|
| A | ; INCREMENTAL SIGNAL (PHASE A) INPUT |
| B | ; INCREMENTAL SIGNAL (PHASE B) INPUT |
| BORROW | ; BORROW PULSE OUTPUT |
| CARRY | ; CARRY PULSE OUTPUT |
| CD0-7 | ; COUNT DATA OUTPUT |
| $\overline{OE}$ | ; OUTPUT CONTROL SIGNAL INPUT |
| $\overline{RESET}$ | ; COUNTER RESET INPUT |
| $\overline{STB}$ | ; LATCH STROBE SIGNAL INPUT |

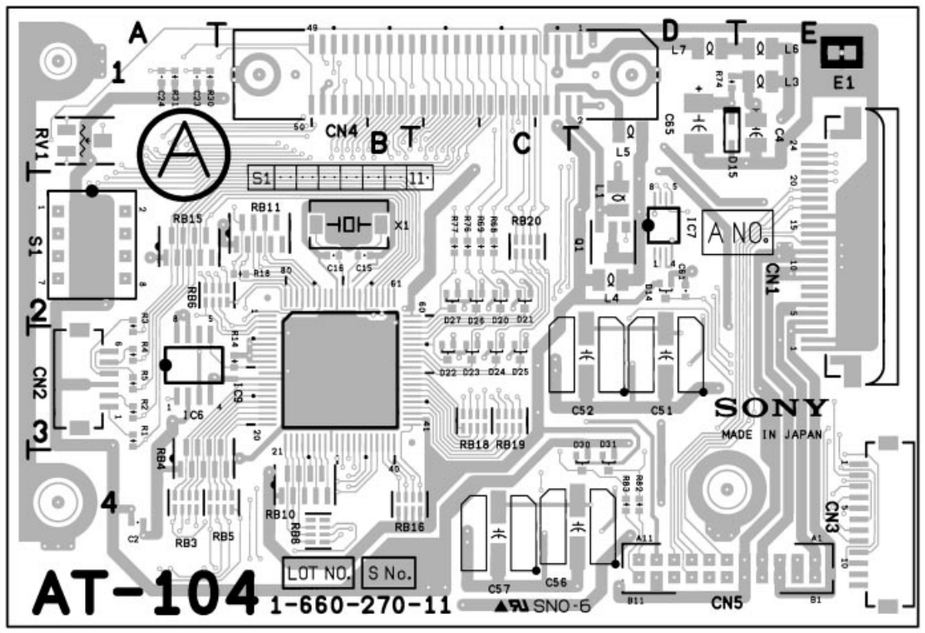


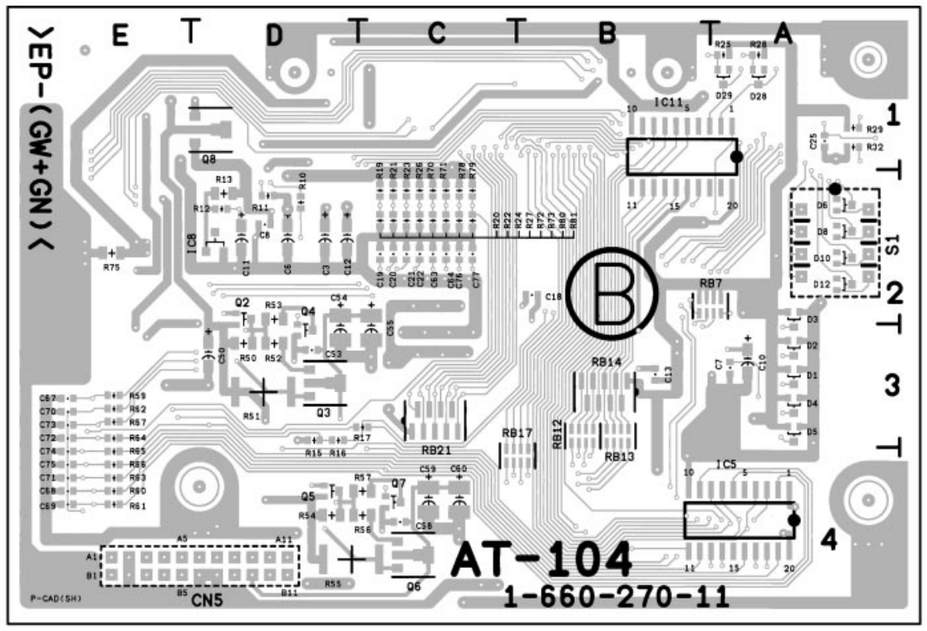
# Section 5
# Block Diagram




**OVERALL**
HKCA-700
HKCA700-OVERALL

# Section 6
# Board Layouts



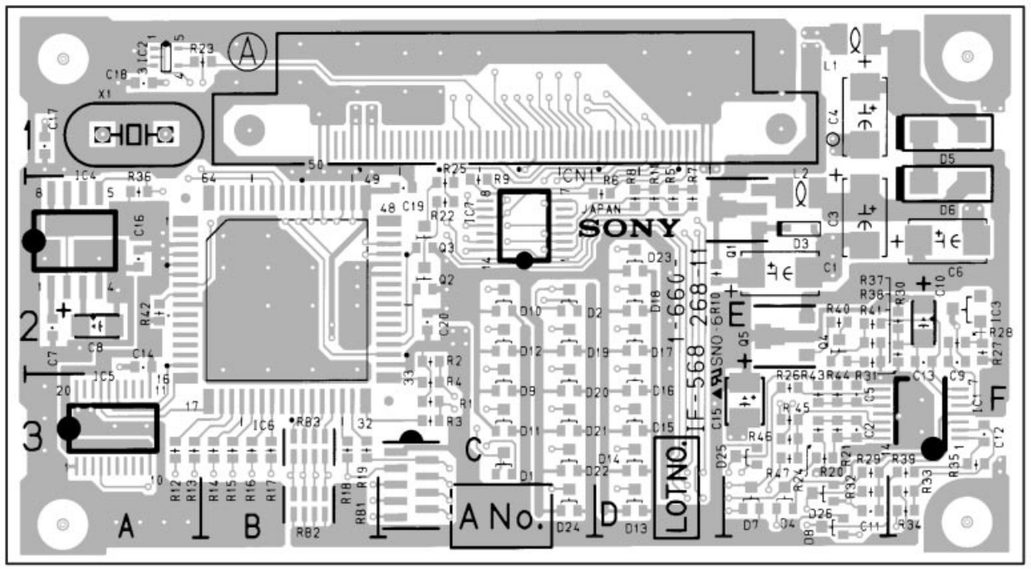



**AT-104** -A SIDE-
1-660-270-11

**AT-104** -B SIDE-
1-660-270-11

AT-104 (1-660-270-11)

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CN1 | E2 | C56 | D4 | D20 | C2 | Q4 | * D3 | R10 | * D2 | R60 | * E4 |
| CN2 | A3 | C57 | C4 | D21 | C2 | Q5 | * D4 | R11 | * D2 | R61 | * E4 |
| CN3 | E4 | C58 | * C4 | D22 | C3 | Q6 | * C4 | R12 | * D2 | R62 | * E3 |
| CN4 | C1 | C59 | * C4 | D23 | C3 | Q7 | * C4 | R13 | * D2 | R63 | * E4 |
| CN5 | D4 | C60 | * C4 | D24 | C3 | Q8 | * D1 | R14 | B3 | R64 | * E3 |
| | | C61 | D2 | D25 | C3 | | | R15 | * D3 | R65 | * E4 |
| C2 | A4 | C63 | * C2 | D26 | C2 | RB3 | A4 | R16 | * D3 | R66 | * E4 |
| C3 | * D2 | C64 | * C2 | D27 | C2 | RB4 | A4 | R17 | * C3 | R67 | * E3 |
| C4 | E1 | C65 | D1 | D28 | * A1 | RB5 | B4 | R18 | B2 | R68 | C2 |
| C6 | * D2 | C67 | * E3 | D29 | * A1 | RB6 | A2 | R19 | * C2 | R69 | C2 |
| C7 | * A3 | C68 | * E4 | D30 | D4 | RB7 | * A2 | R20 | * C2 | R70 | * C2 |
| C8 | * D2 | C69 | * E4 | D31 | D4 | RB8 | B4 | R21 | * C2 | R71 | * C2 |
| C10 | * A3 | C70 | * E3 | | | RB10 | B4 | R22 | * C2 | R72 | * C2 |
| C11 | * D2 | C71 | * E4 | E1 | E1 | RB11 | B2 | R23 | * C2 | R73 | * C2 |
| C12 | * D2 | C72 | * E3 | | | RB12 | * B3 | R24 | * C2 | R74 | D1 |
| C13 | * B3 | C73 | * E3 | IC5 | * A4 | RB13 | * B3 | R25 | * A1 | R75 | * E2 |
| C15 | B2 | C74 | * E4 | IC6 | A3 | RB14 | * B3 | R26 | * C2 | R76 | C2 |
| C16 | B2 | C75 | * E4 | IC7 | D2 | RB15 | A2 | R27 | * C2 | R77 | C2 |
| C18 | * B2 | C76 | * C2 | IC8 | * D2 | RB16 | B4 | R28 | * A1 | R78 | * C2 |
| C19 | * C2 | C77 | * C2 | IC9 | B3 | RB17 | * B4 | R29 | * A1 | R79 | * C2 |
| C20 | * C2 | | | IC11 | * B1 | RB18 | C3 | R30 | A1 | R80 | * C2 |
| C21 | * C2 | D1 | * A3 | | | RB19 | C3 | R31 | A1 | R81 | * C2 |
| C22 | * C2 | D2 | * A3 | L1 | D2 | RB20 | C2 | R32 | * A1 | R82 | D4 |
| C23 | A1 | D3 | * A2 | L3 | E1 | RB21 | * C3 | R50 | * D3 | R83 | D4 |
| C24 | A1 | D4 | * A3 | L4 | D2 | | | R51 | * D3 | | |
| C25 | * A1 | D5 | * A3 | L5 | D1 | RV1 | A1 | R52 | * D3 | S1 | A2 |
| C50 | * D3 | D6 | * A2 | L6 | E1 | | | R53 | * D2 | | |
| C51 | D3 | D8 | * A2 | L7 | D1 | R1 | A3 | R54 | * D4 | X1 | B2 |
| C52 | D3 | D10 | * A2 | | | R2 | A3 | R55 | * D4 | | |
| C53 | * D3 | D12 | * A2 | Q1 | D2 | R3 | A3 | R56 | * C4 | *:B SIDE | |
| C54 | * D3 | D14 | D2 | Q2 | * D2 | R4 | A3 | R57 | * C4 | | |
| C55 | * C3 | D15 | D1 | Q3 | * D3 | R5 | A3 | R59 | * E3 | | |



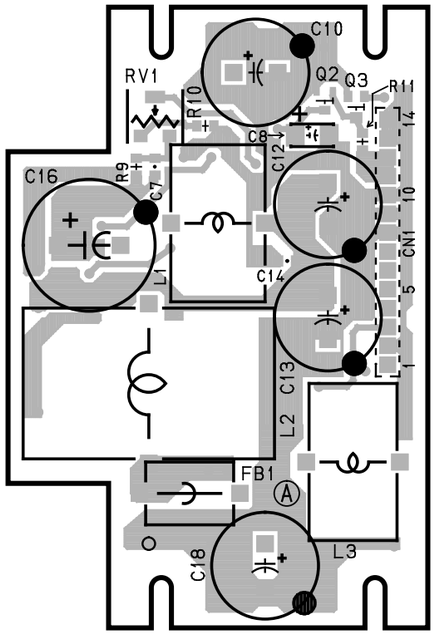

HKCA-700 (UCJ)

# IF-568 -A SIDE-

1-660-268-11

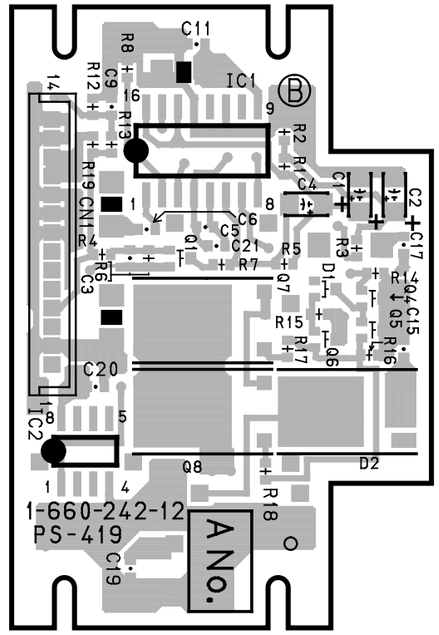
IF-568 (1-660-268-11)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CN1 | C1 | D10 | C2 | Q4 | E2 | R26 | E3 |
| | | D11 | C3 | Q5 | E2 | R27 | F2 |
| C1 | E2 | D12 | C2 | | | R28 | F2 |
| C2 | E3 | D13 | D3 | RB1 | C3 | R29 | E3 |
| C3 | E2 | D14 | D3 | RB2 | B3 | R30 | F2 |
| C4 | E1 | D15 | D3 | RB3 | B3 | R31 | F2 |
| C5 | E3 | D16 | D3 | | | R32 | E3 |
| C6 | F2 | D17 | D2 | R1 | C3 | R33 | F3 |
| C7 | A2 | D18 | D2 | R2 | C2 | R34 | F3 |
| C8 | A2 | D19 | C2 | R3 | C3 | R35 | F3 |
| C9 | F2 | D20 | C3 | R4 | C3 | R36 | A2 |
| C10 | F2 | D21 | C3 | R5 | D2 | R37 | E2 |
| C11 | E3 | D22 | C3 | R6 | D2 | R38 | E2 |
| C12 | F3 | D23 | D2 | R7 | D2 | R39 | F3 |
| C13 | F2 | D24 | C3 | R8 | D2 | R40 | E2 |
| C14 | A2 | D25 | E3 | R9 | C2 | R41 | E2 |
| C15 | E3 | D26 | E3 | R10 | D2 | R42 | A2 |
| C16 | A2 | | | R11 | D2 | R43 | E3 |
| C17 | A1 | IC1 | F3 | R12 | A3 | R44 | E3 |
| C18 | A1 | IC2 | A1 | R13 | A3 | R45 | E3 |
| C19 | C2 | IC3 | F2 | R14 | B3 | R46 | E3 |
| C20 | C2 | IC4 | A2 | R15 | B3 | R47 | E3 |
| | | IC5 | A3 | R16 | B3 | | |
| D1 | C3 | IC6 | B2 | R17 | B3 | X1 | A1 |
| D2 | C2 | IC7 | C2 | R18 | B3 | | |
| D3 | E2 | | | R19 | B3 | | |
| D4 | E3 | L1 | E1 | R20 | E3 | | |
| D5 | F1 | L2 | E2 | R21 | E3 | | |
| D6 | F2 | | | R22 | C2 | | |
| D7 | E3 | Q1 | E2 | R23 | B1 | | |
| D8 | E3 | Q2 | C2 | R24 | E3 | | |
| D9 | C3 | Q3 | C2 | R25 | C2 | | |

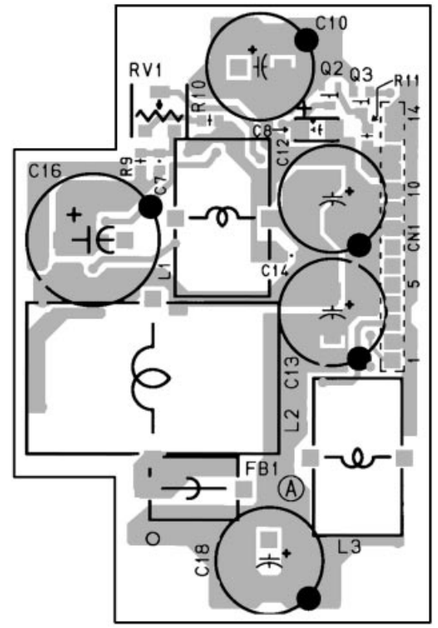



**HKCA-700 (UCJ) :**
**S/N 10041 and Higher**

**PS-419** -A SIDE-
1-660-242-12

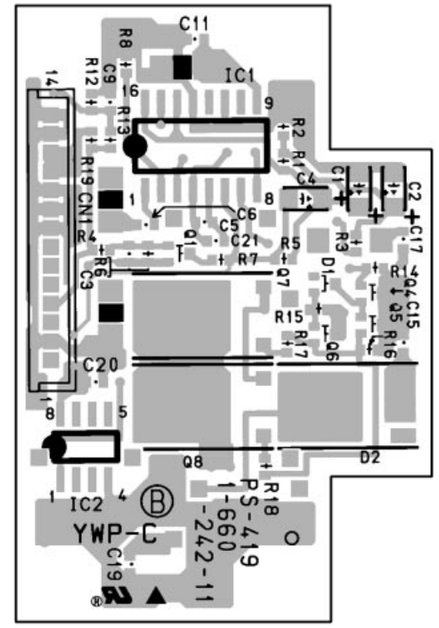



**PS-419** -B SIDE-
1-660-242-12

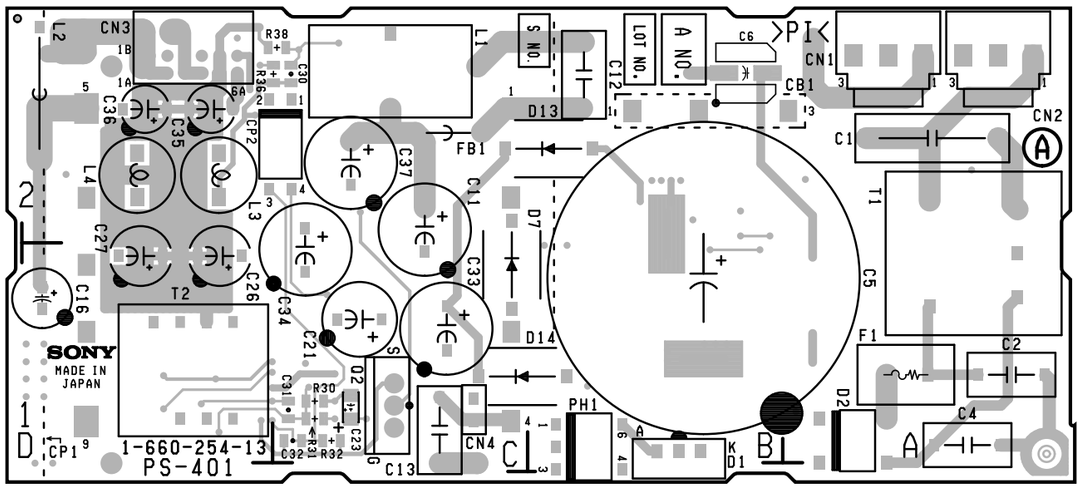



**HKCA-700 (UCJ) :**
**S/N 10001 through 10040**

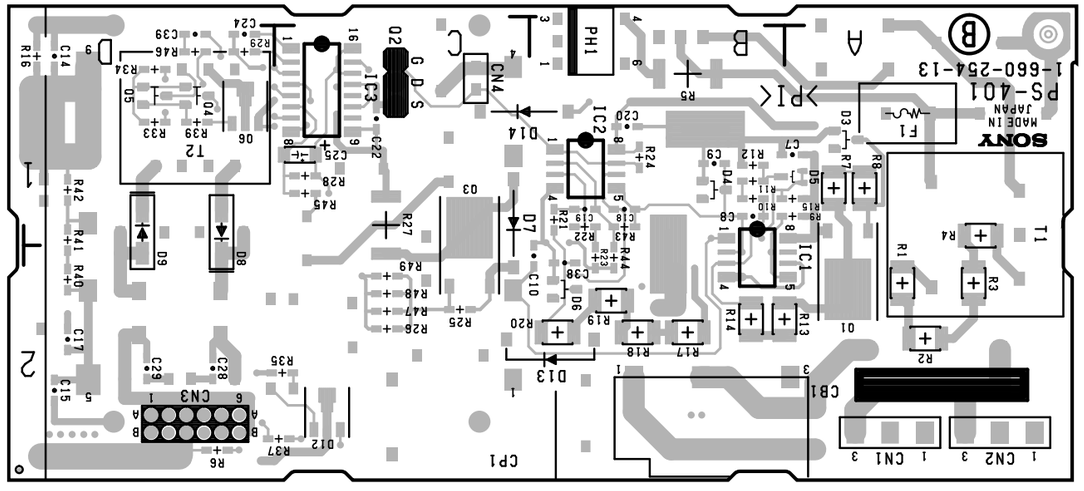
**PS-419** -A SIDE-
1-660-242-11




**PS-419** -B SIDE-
1-660-242-11




**PS-401** -A SIDE-
1-660-254-13

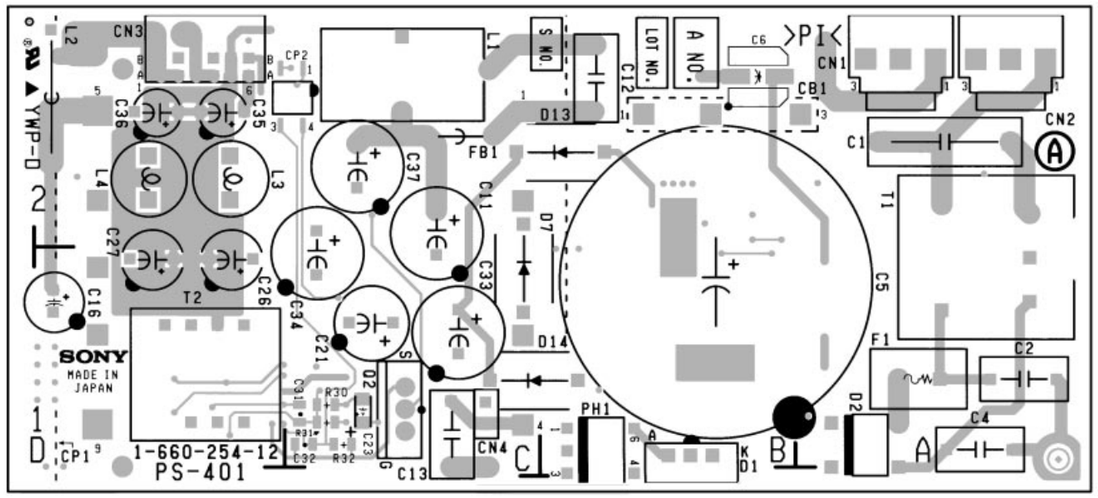



**HKCA-700 (UCJ) : S/N 10086 and Higher**

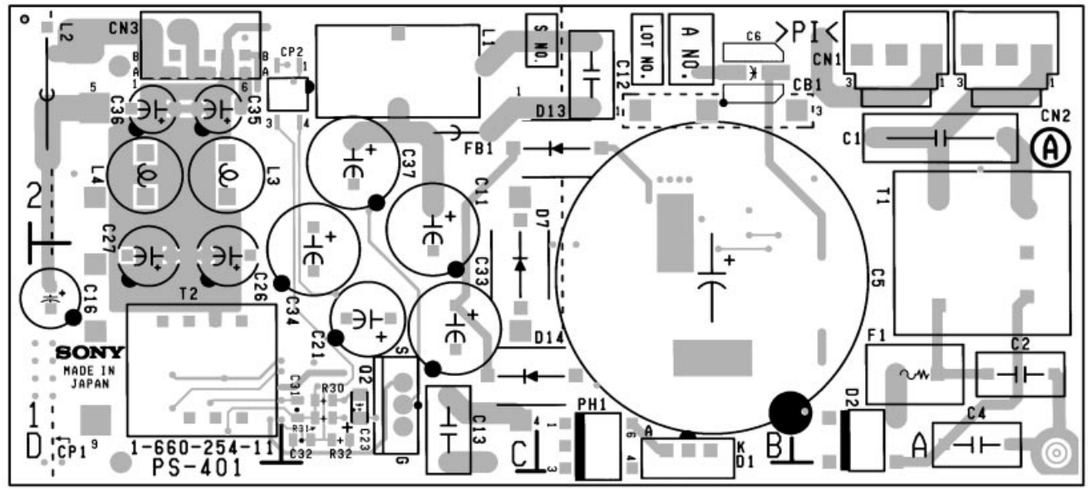
**PS-401** -B SIDE-
1-660-254-13

PS-401 (1-660-254-13)

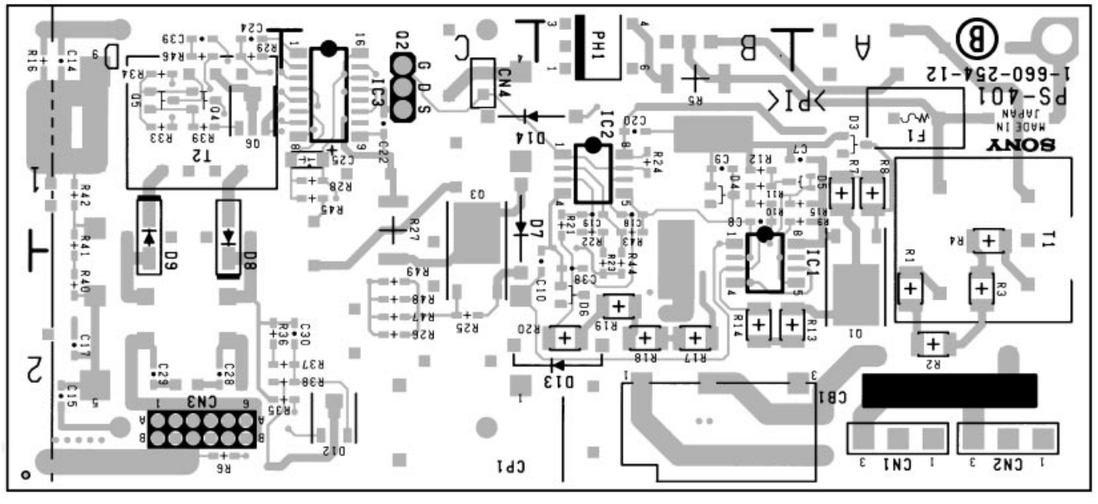
| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CB1 | *B2 | C6 | B2 | C20 | *B1 | C34 | C1 | D8 | *D1 | L1 | C2 | R1 | *A2 | R15 | *A1 | R29 | *D1 | R43 | *B1 |
| | | C7 | *A1 | C21 | C1 | C35 | D2 | D9 | *D1 | L2 | D2 | R2 | *A2 | R16 | *D1 | R30 | C1 | R44 | *B2 |
| CN1 | A2 | C8 | *B1 | C22 | *C1 | C36 | D2 | D12 | *C2 | L3 | D2 | R3 | *A2 | R17 | *B2 | R31 | C1 | R45 | *C1 |
| CN2 | A2 | C9 | *B1 | C23 | C1 | C37 | C2 | D13 | B2 | L4 | D2 | R4 | *A1 | R18 | *B2 | R32 | C1 | R46 | *D1 |
| CN3 | D2 | C10 | *B2 | C24 | *D1 | C38 | *B2 | D14 | C1 | | | R5 | *B1 | R19 | *B2 | R33 | *D1 | R47 | *C2 |
| CN4 | C1 | C11 | C2 | C25 | *C1 | C39 | *D1 | | | PH1 | B1 | R6 | *D2 | R20 | *B2 | R34 | *D1 | R48 | *C2 |
| | | C12 | B2 | C26 | D1 | | | FB1 | C2 | | | R7 | *A1 | R21 | *B1 | R35 | *C2 | R49 | *C2 |
| CP1 | *C1 | C13 | C1 | C27 | D1 | D1 | B1 | | | Q1 | *A2 | R8 | *A1 | R22 | *B1 | R36 | C2 | | |
| CP2 | C2 | C14 | *D1 | C28 | *D2 | D2 | A1 | F1 | A1 | Q2 | C1 | R9 | *A1 | R23 | *B2 | R37 | *C2 | T1 | A1 |
| | | C15 | *D2 | C29 | *D2 | D3 | *A1 | | | Q3 | *C1 | R10 | *B1 | R24 | *B1 | R38 | C2 | T2 | D1 |
| C1 | A2 | C16 | D1 | C30 | C2 | D4 | *B1 | IC1 | *B1 | Q4 | *D1 | R11 | *B1 | R25 | *C2 | R39 | *D1 | | |
| C2 | A1 | C17 | *D2 | C31 | C1 | D5 | *A1 | IC2 | *B1 | Q5 | *D1 | R12 | *B1 | R26 | *C2 | R40 | *D2 | *:B SIDE | |
| C4 | A1 | C18 | *B1 | C32 | C1 | D6 | *B2 | IC3 | *C1 | Q6 | *D1 | R13 | *A2 | R27 | *C1 | R41 | *D1 | | |
| C5 | B1 | C19 | *B1 | C33 | C1 | D7 | C1 | | | | | R14 | *B2 | R28 | *C1 | R42 | *D1 | | |




**PS-401** -A SIDE-
1-660-254-12

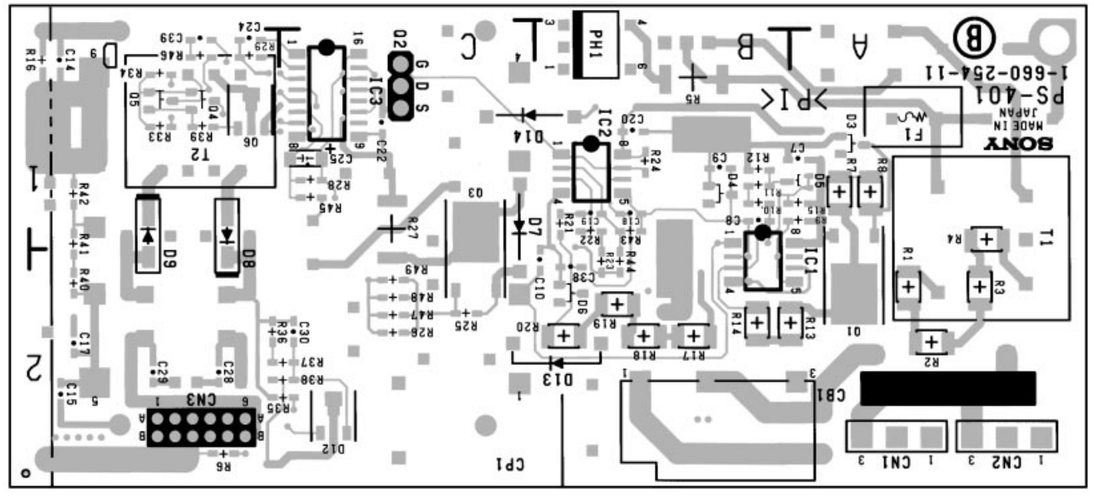



**PS-401** -A SIDE-
1-660-254-11




HKCA-700 (UCJ) : S/N 10041 through 10085

**PS-401** -B SIDE-
1-660-254-12




HKCA-700 (UCJ) : S/N 10001 through 10040

**PS-401** -B SIDE-
1-660-254-11

PS-401 (1-660-254-12)

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CB1 | B2 | C5 | B1 | C19 | * B1 | C33 | C1 | D8 | * D1 | L1 | C2 | R1 | * A2 | R16 | * D1 | R30 | C1 |
| | | C6 | B2 | C20 | * B1 | C34 | C1 | D9 | * D1 | L2 | D2 | R2 | * A2 | R17 | * B2 | R31 | C1 |
| CN1 | A2 | C7 | * A1 | C21 | C1 | C35 | D2 | D12 | * C2 | L3 | D2 | R3 | * A2 | R18 | * B2 | R32 | C1 |
| CN2 | A2 | C8 | * B1 | C22 | * C1 | C36 | D2 | D13 | B2 | L4 | D2 | R4 | * A1 | R19 | * B2 | R33 | * D1 |
| CN3 | D2 | C9 | * B1 | C23 | C1 | C37 | C2 | D14 | C1 | | | R5 | * B1 | R20 | * B2 | R34 | * D1 |
| CN4 | C1 | C10 | * B2 | C24 | * D1 | C38 | * B2 | | | PH1 | B1 | R6 | * D2 | R21 | * B1 | R35 | * C2 |
| | | C11 | C2 | C25 | * C1 | | | FB1 | C2 | | | R7 | * A1 | R22 | * B1 | R36 | * D2 |
| CP1 | * C1 | C12 | B2 | C26 | D1 | D1 | B1 | | | Q1 | * A2 | R8 | * A1 | R23 | * B2 | R37 | * C2 |
| CP2 | C2 | C13 | C1 | C27 | D1 | D2 | A1 | F1 | A1 | Q2 | C1 | R9 | * A1 | R24 | * B1 | R38 | * C2 |
| | | C14 | * D1 | C28 | * D2 | D3 | * A1 | | | Q3 | * C1 | R10 | * B1 | R25 | * C2 | R39 | * D1 |
| C1 | A2 | C15 | * D2 | C29 | * D2 | D4 | * B1 | IC1 | * B1 | Q4 | * D1 | R11 | * B1 | R26 | * C2 | R40 | * D2 |
| C2 | A1 | C16 | D1 | C30 | * C2 | D5 | * A1 | IC2 | * B1 | Q5 | * D1 | R12 | * B1 | R27 | * C1 | R41 | * D1 |
| C4 | A1 | C17 | * D2 | C31 | C1 | D6 | * B2 | IC3 | * C1 | Q6 | * D1 | R13 | * A2 | R28 | * C1 | R42 | * D1 |
| | | C18 | * B1 | C32 | C1 | D7 | C1 | | | | | R14 | * B2 | R29 | * C1 | R43 | * B1 |

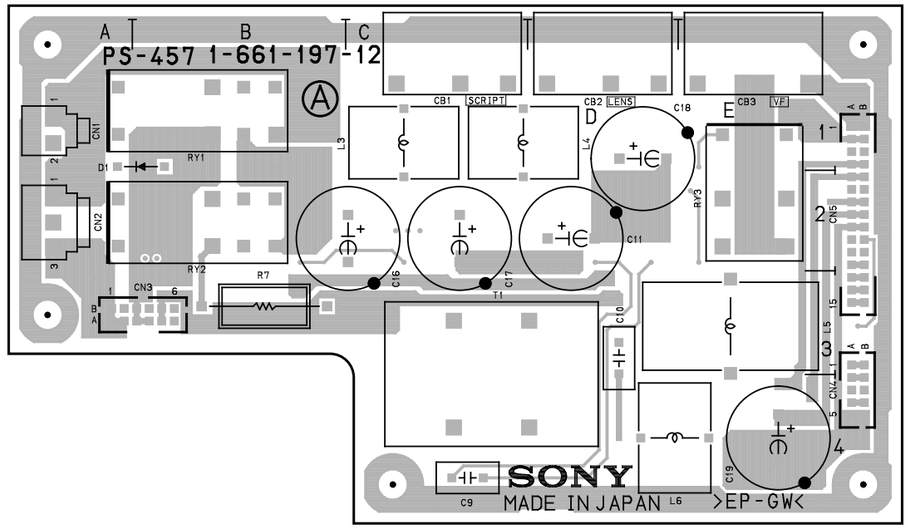
| | | | |
|---|---|---|---|
| R44 | * B2 | | |
| R45 | * C1 | | |
| R47 | * C2 | | |
| R48 | * C2 | | |
| R49 | * C2 | | |
| T1 | A1 | | |
| T2 | D1 | | |

*:B SIDE

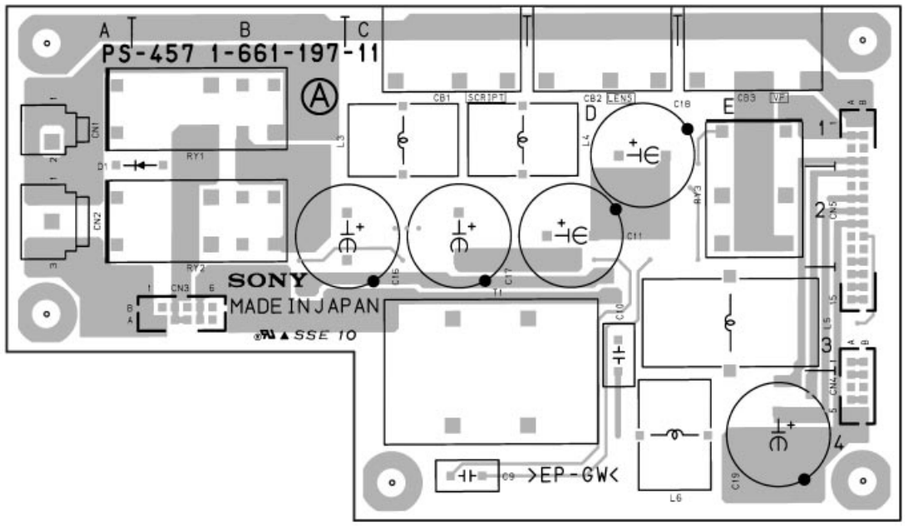
PS-401 (1-660-254-11)

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CB1 | B2 | C7 | * A1 | C21 | C1 | C35 | D2 | D12 | * C2 | L3 | D2 | R3 | * A2 | R18 | * B2 | R32 | C1 |
| | | C8 | * B1 | C22 | * C1 | C36 | D2 | D13 | B2 | L4 | D2 | R4 | * A1 | R19 | * B2 | R33 | * D1 |
| CN1 | A2 | C9 | * B1 | C23 | C1 | C37 | C2 | D14 | C1 | | | R5 | * B1 | R20 | * B2 | R34 | * D1 |
| CN2 | A2 | C10 | * B2 | C24 | * D1 | C38 | * B2 | | | PH1 | B1 | R6 | * D2 | R21 | * B1 | R35 | * C2 |
| CN3 | D2 | C11 | C2 | C25 | * C1 | | | FB1 | C2 | | | R7 | * A1 | R22 | * B1 | R36 | * D2 |
| | | C12 | B2 | C26 | D1 | D1 | B1 | | | Q1 | * A2 | R8 | * A1 | R23 | * B2 | R37 | * C2 |
| CP1 | * C2 | C13 | C1 | C27 | D1 | D2 | A1 | F1 | A1 | Q2 | C1 | R9 | * A1 | R24 | * B1 | R38 | * C2 |
| CP2 | C2 | C14 | * D1 | C28 | * D2 | D3 | * A1 | | | Q3 | * C1 | R10 | * B1 | R25 | * C2 | R39 | * D1 |
| | | C15 | * D2 | C29 | * D2 | D4 | * B1 | IC1 | * B1 | Q4 | * D1 | R11 | * B1 | R26 | * C2 | R40 | * D2 |
| C1 | A2 | C16 | D1 | C30 | * C2 | D5 | * A1 | IC2 | * B1 | Q5 | * D1 | R12 | * B1 | R27 | * C1 | R41 | * D1 |
| C2 | A1 | C17 | * D2 | C31 | C1 | D6 | * B2 | IC3 | * C1 | Q6 | * D1 | R13 | * A2 | R28 | * C1 | R42 | * D1 |
| C4 | A1 | C18 | * B1 | C32 | C1 | D7 | C1 | | | | | R14 | * B2 | R29 | * D1 | R43 | * B1 |
| C5 | B1 | C19 | * B1 | C33 | C1 | D8 | * D1 | L1 | C2 | R1 | * A2 | R16 | * D1 | R30 | C1 | R44 | * B2 |
| C6 | B2 | C20 | * B1 | C34 | C1 | D9 | * D1 | L2 | D2 | R2 | * A2 | R17 | * B2 | R31 | C1 | R45 | * C1 |

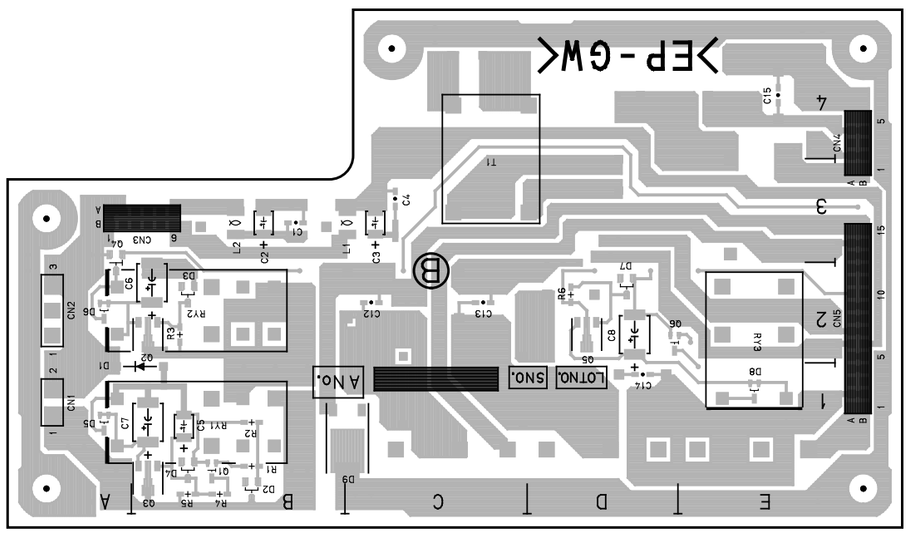
*:B SIDE




**PS-457** -A SIDE-
1-661-197-12




**PS-457** -A SIDE-
1-661-197-11

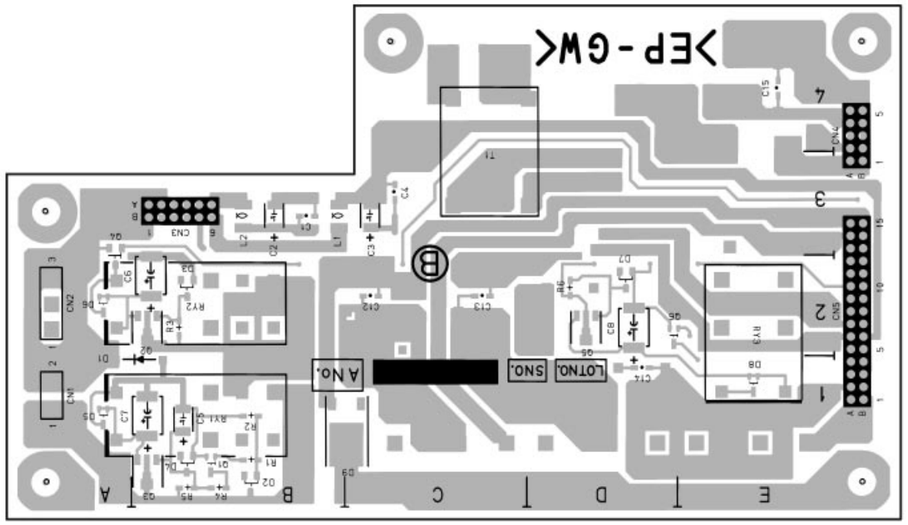



**HKCA-700 (UCJ) : S/N 10041 and Higher**

PS-457 (1-661-197-12)

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CB1 | C1 | C3 | * C3 | C15 | * E4 | D7 | * D2 | Q2 | * B2 | R3 | * B2 |
| CB2 | D1 | C4 | * C3 | C16 | C2 | D8 | * E1 | Q3 | * B1 | R4 | * B1 |
| CB3 | E1 | C5 | * B1 | C17 | C2 | D9 | * C1 | Q4 | * A2 | R5 | * B1 |
| | | C6 | * B2 | C18 | D1 | | | Q5 | * D2 | R6 | * D2 |
| CN1 | A1 | C7 | * B1 | C19 | E4 | L1 | * C3 | Q6 | * D2 | R7 | B3 |
| CN2 | A2 | C8 | * D2 | | | L2 | * B3 | | | | |
| CN3 | B3 | C9 | C4 | D1 | B1 | L3 | C1 | RY1 | B1 | T1 | C3 |
| CN4 | E4 | C10 | D3 | D2 | * B1 | L4 | C1 | RY2 | B2 | | |
| CN5 | E2 | C11 | D2 | D3 | * B2 | L5 | E3 | RY3 | E2 | *:B SIDE | |
| | | C12 | * C2 | D4 | * B1 | L6 | D4 | | | | |
| C1 | * B3 | C13 | * C2 | D5 | * A1 | | | R1 | * B1 | | |
| C2 | * B3 | C14 | * D1 | D6 | * A2 | Q1 | * B1 | R2 | * B1 | | |

**PS-457** -B SIDE-
1-661-197-12




**HKCA-700 (UCJ) : S/N 10001 through 10040**

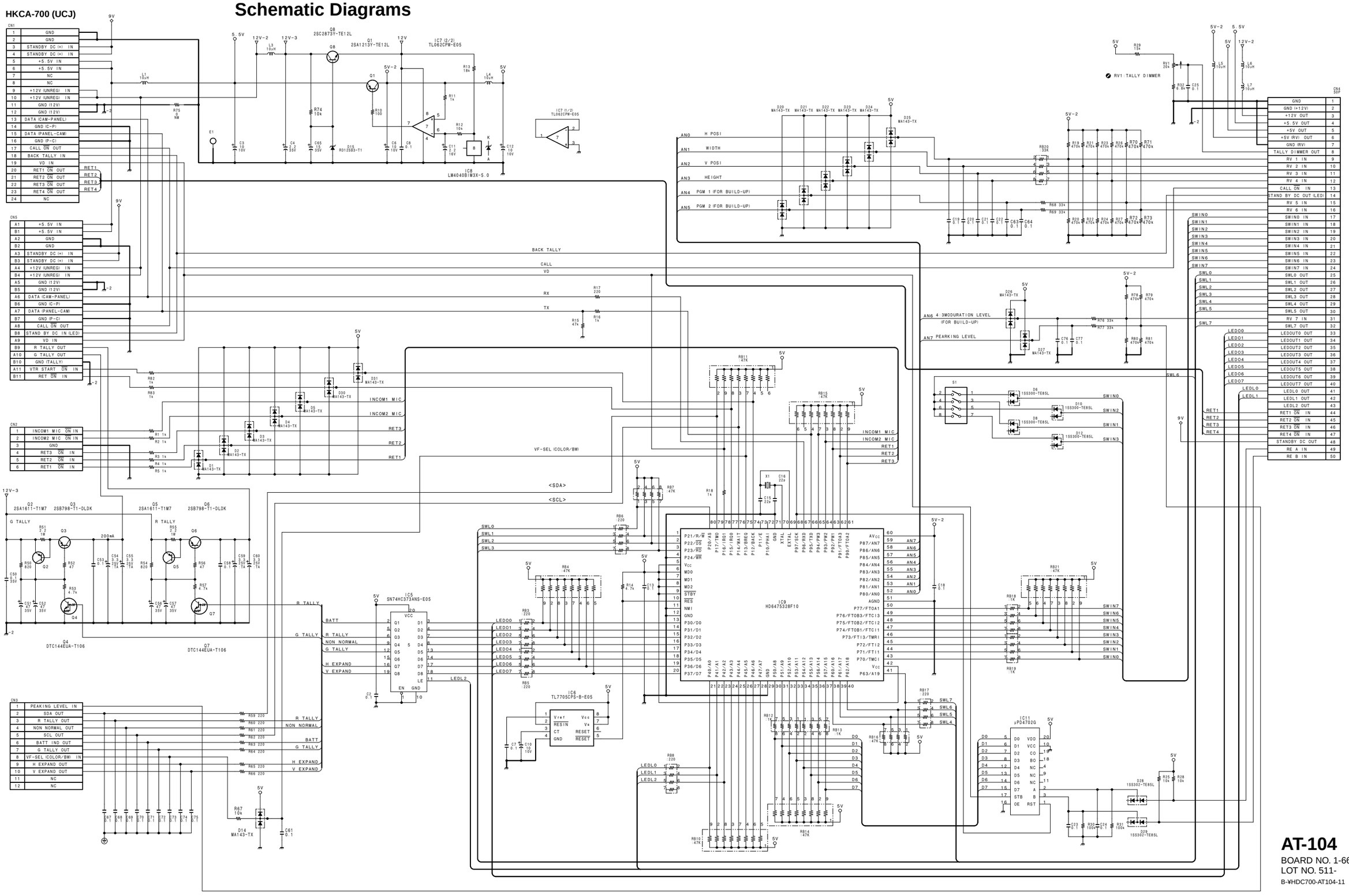
PS-457 (1-661-197-11)

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CB1 | C1 | C3 | * C3 | C15 | * E4 | D7 | * D2 | Q2 | * B2 | R3 | * B2 |
| CB2 | D1 | C4 | * C3 | C16 | C2 | D8 | * E1 | Q3 | * B1 | R4 | * B1 |
| CB3 | E1 | C5 | * B1 | C17 | C2 | D9 | * C1 | Q4 | * A2 | R5 | * B1 |
| | | C6 | * B2 | C18 | D1 | | | Q5 | * D2 | R6 | * D2 |
| CN1 | A1 | C7 | * B1 | C19 | E4 | L1 | * B3 | Q6 | * D2 | | |
| CN2 | A2 | C8 | * D2 | | | L2 | * B3 | | | T1 | C3 |
| CN3 | B3 | C9 | C4 | D1 | B1 | L3 | C1 | RY1 | B1 | | |
| CN4 | E4 | C10 | D3 | D2 | * B1 | L4 | C1 | RY2 | B2 | *:B SIDE | |
| CN5 | E2 | C11 | D2 | D3 | * B2 | L5 | E3 | RY3 | E2 | | |
| | | C12 | * C2 | D4 | * B1 | L6 | D4 | | | | |
| C1 | * B3 | C13 | * C2 | D5 | * A1 | | | R1 | * B1 | | |
| C2 | * B3 | C14 | * D1 | D6 | * A2 | Q1 | * B1 | R2 | * B1 | | |

**PS-457** -B SIDE-
1-661-197-11

# Section 7
# Schematic Diagrams

## HKCA-700 (UCJ)



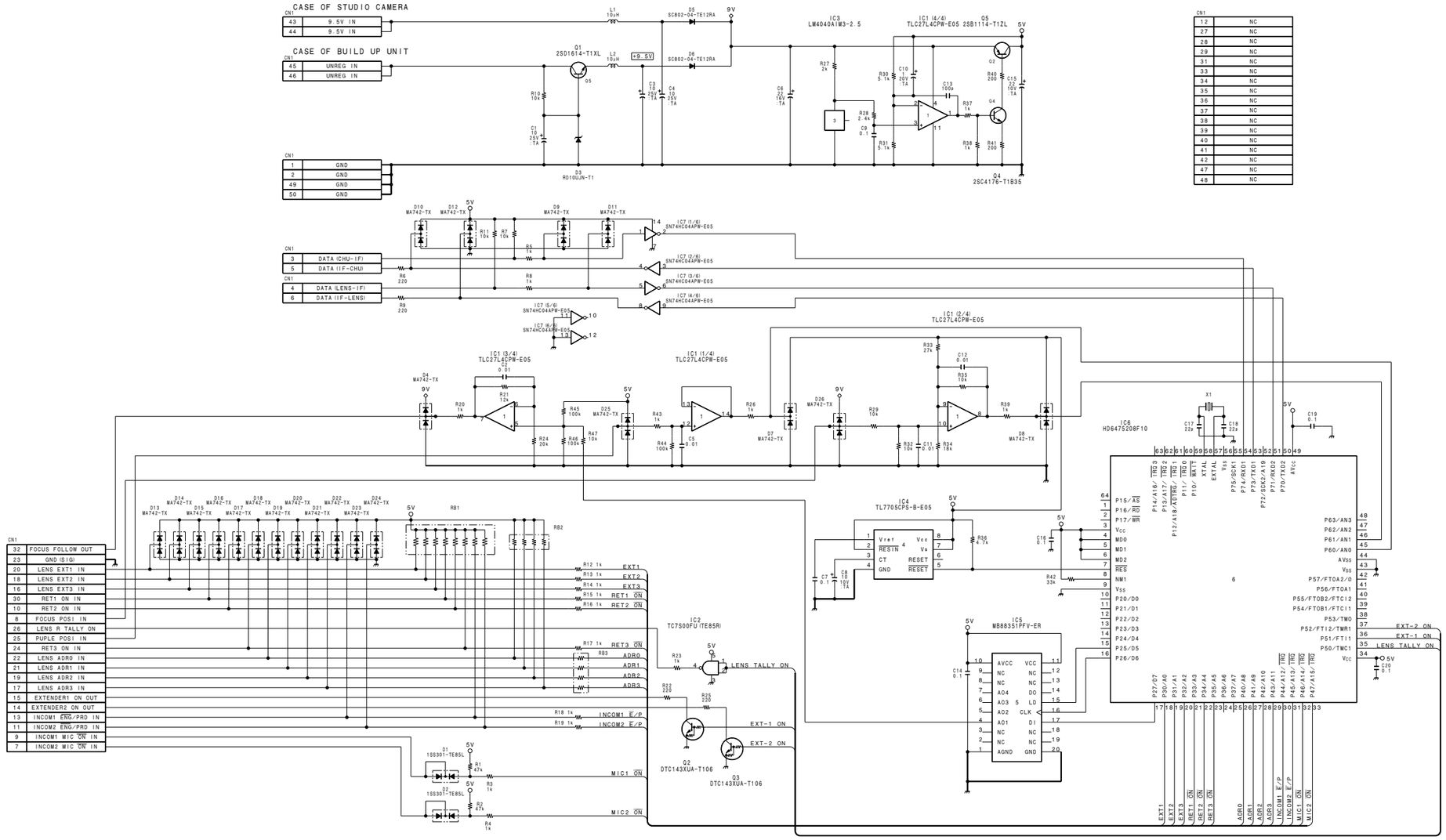

HKCA-700

7-1 7-1

## AT-104

BOARD NO. 1-660-270-11
LOT NO. 511-
B-¥HDC700-AT104-11

HKCA-700 (UCJ)

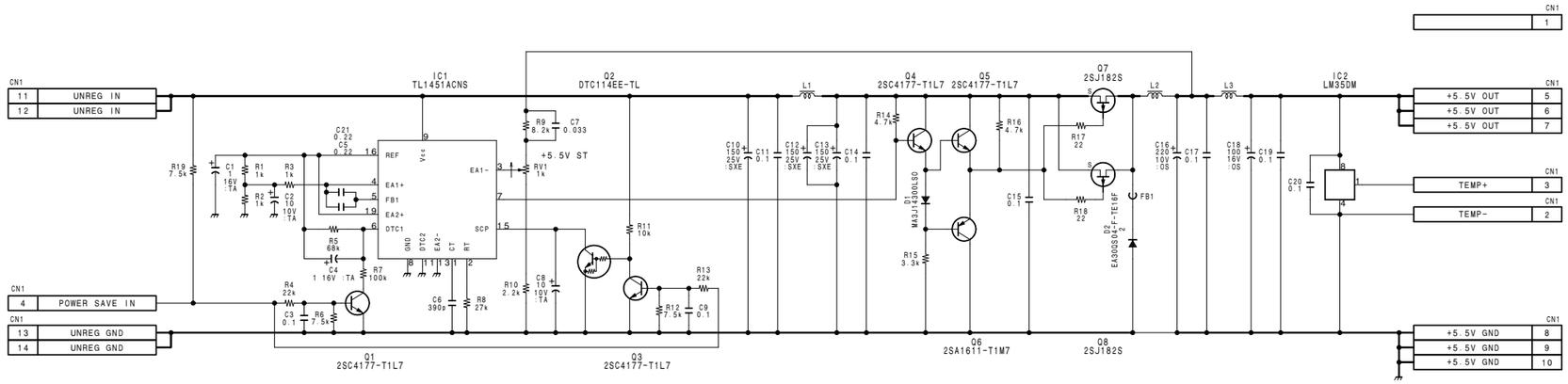



# IF-568

BOARD NO. 1-660-268-11
LOT NO. 511-

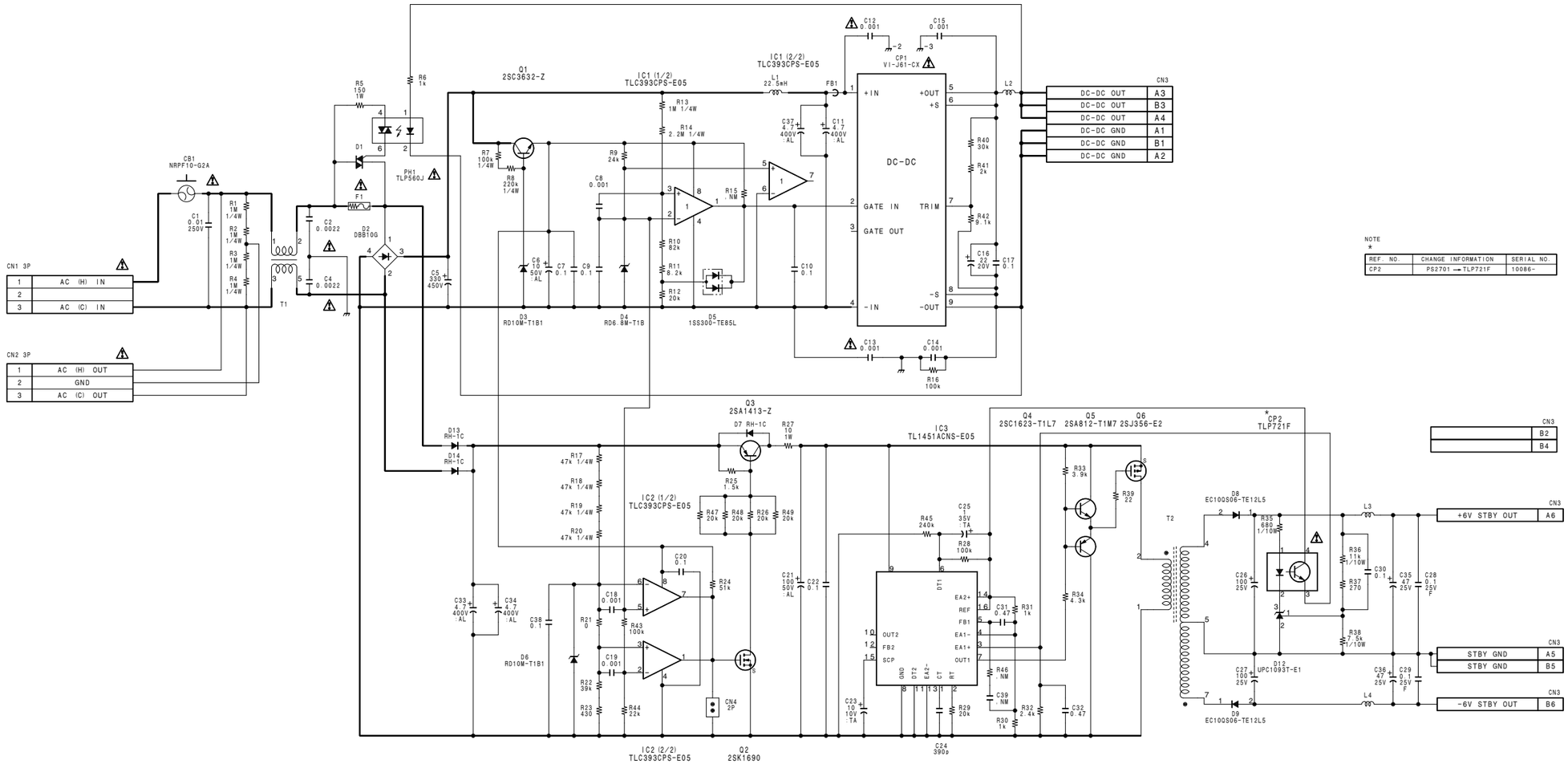
B-¥HDC700-IF568-11

HKCA-700 (UCJ)




**PS-419**
BOARD NO. 1-660-242-11/12
LOT NO. 511-
B-¥HDC750-PS419-12

HKCA-700 (UCJ)

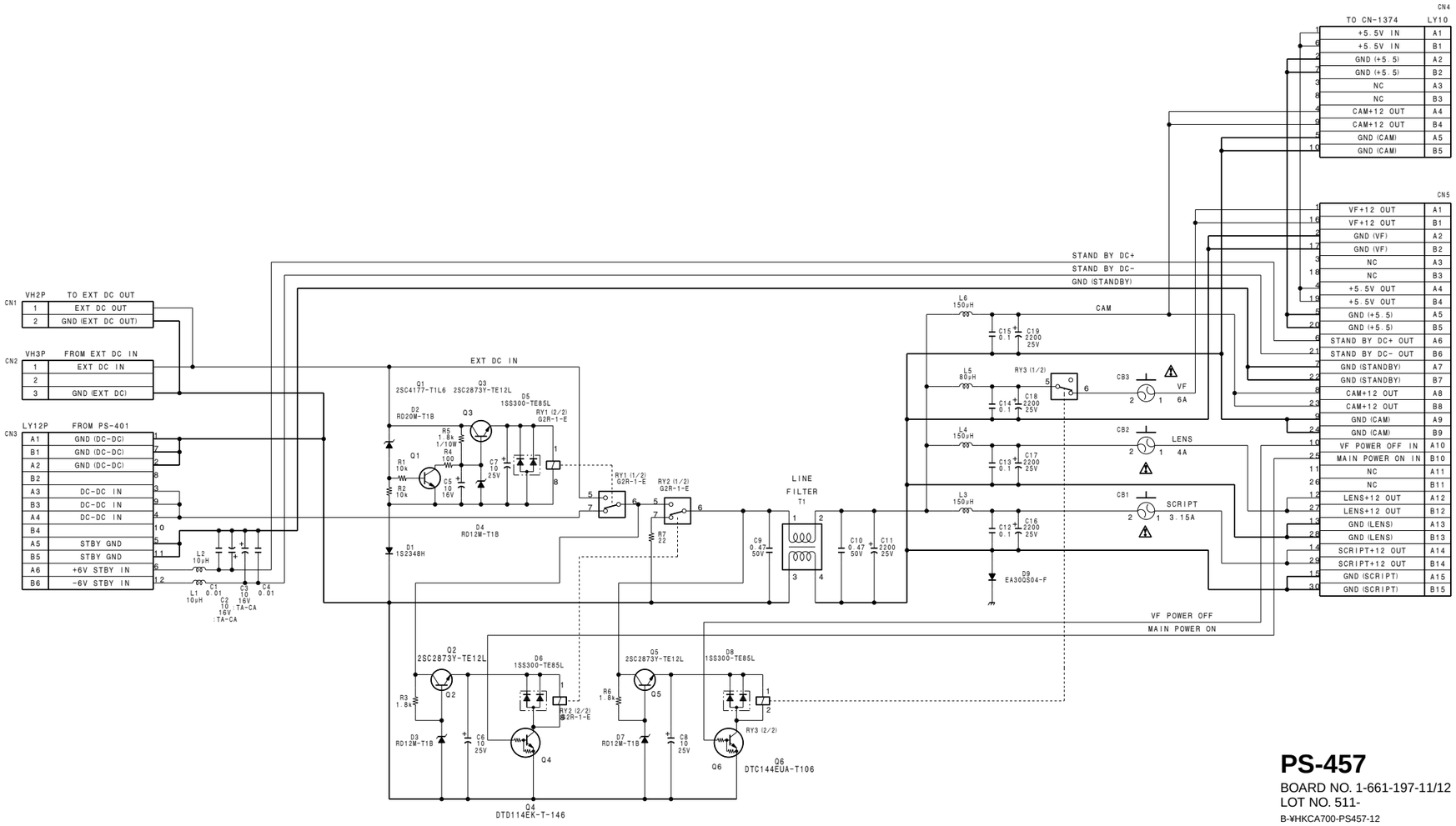



NOTE
*

| REF. NO. | CHANGE INFORMATION | SERIAL NO. |
|---|---|---|
| CP2 | PS2701 → TLP721F | 10086- |

**PS-401**
BOARD NO. 1-660-254-11/12/13
LOT NO. 511-
B-¥HDCA750-PS401-12

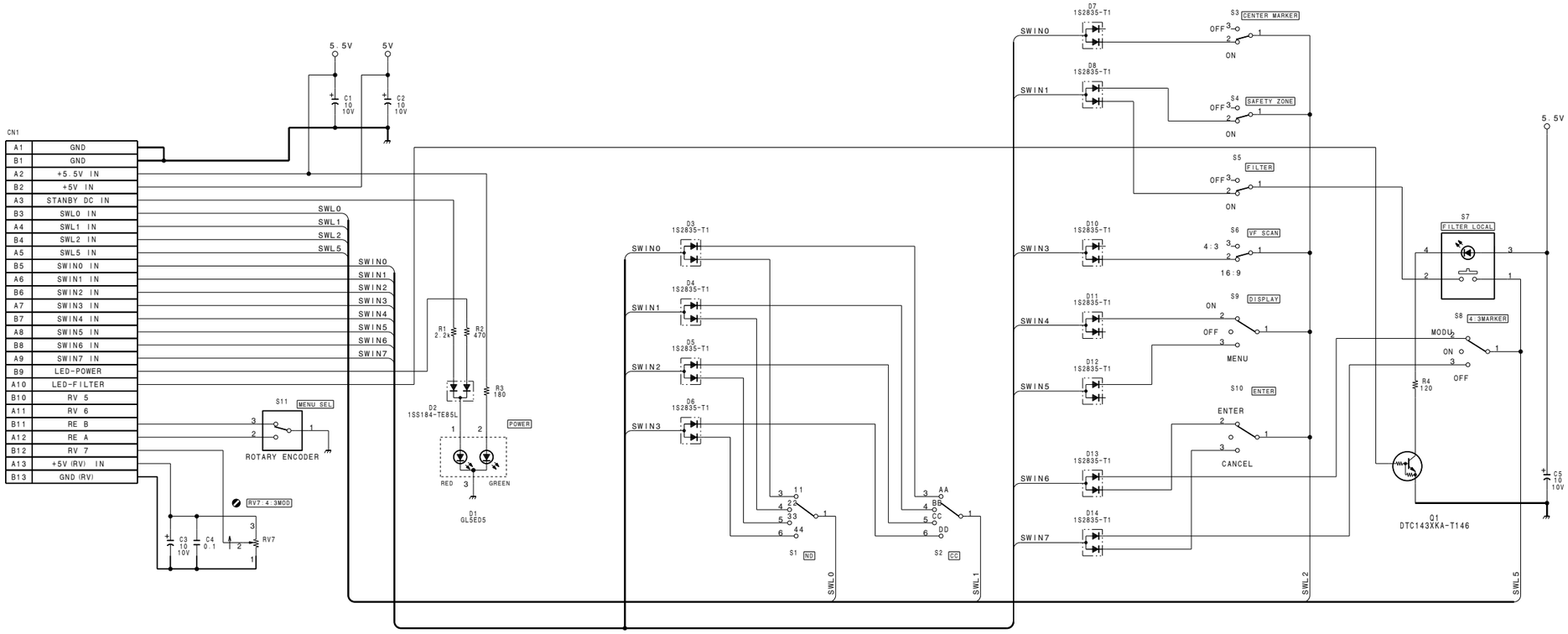
HKCA-700 (UCJ)




## PS-457

BOARD NO. 1-661-197-11/12
LOT NO. 511-
B-¥HKCA700-PS457-12

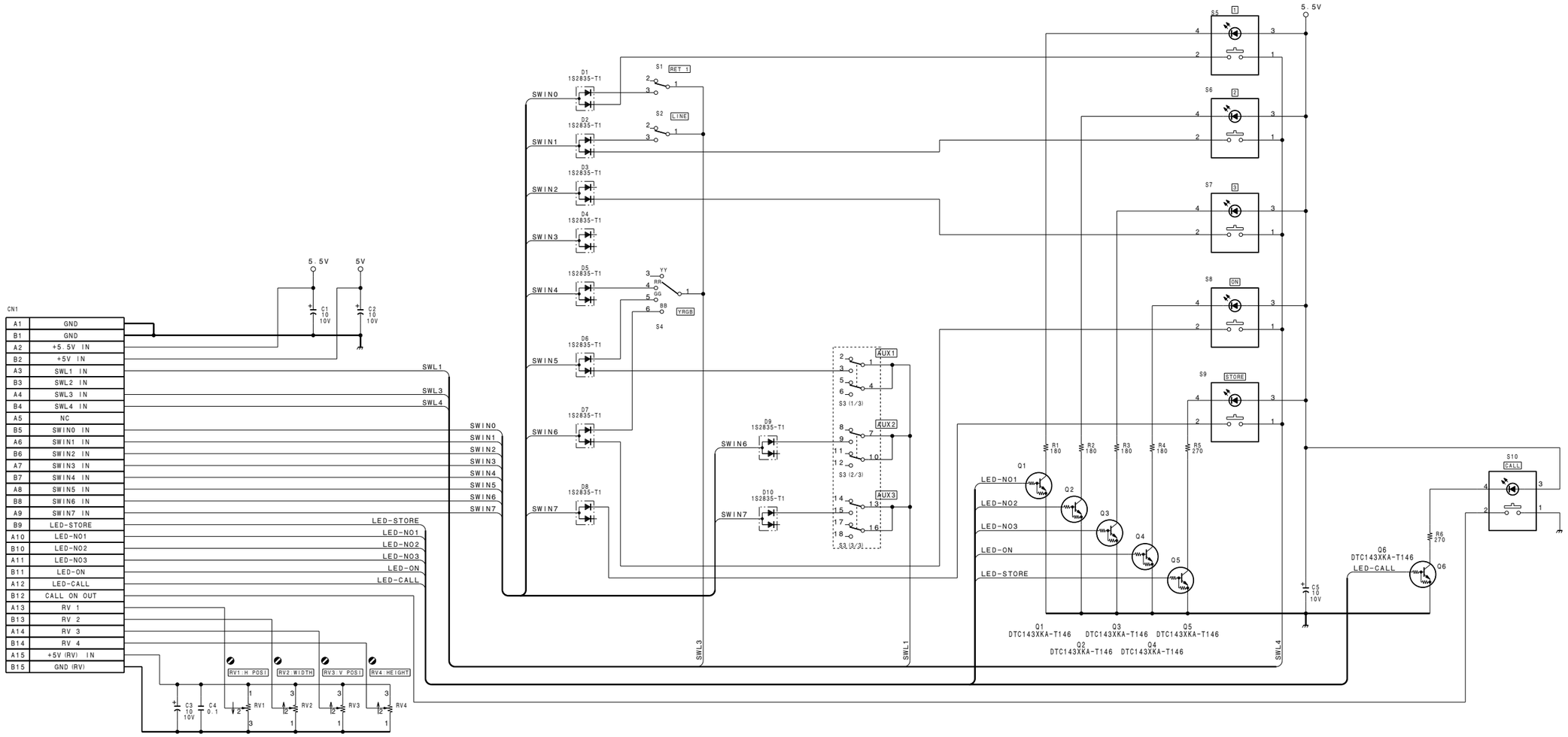
HKCA-700 (UCJ)




# SW-865

BOARD NO. 1-661-194-11/12/13
LOT NO. 512-
B-¥HKCA700-SW865-12

HKCA-700 (UCJ)

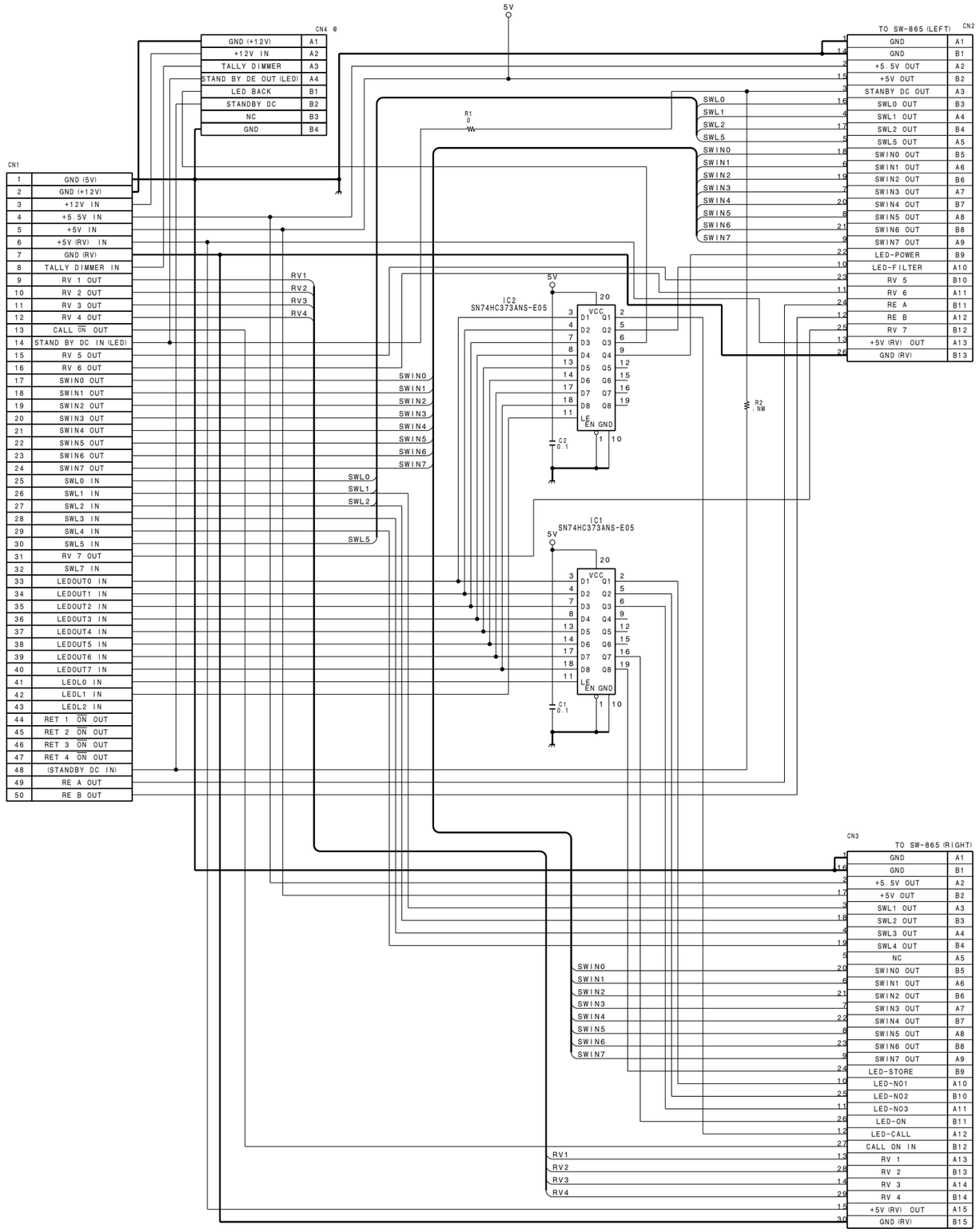



# SW-866

BOARD NO. 1-661-195-11/12
LOT NO. 512-

B-¥HKCA700-SW866-12

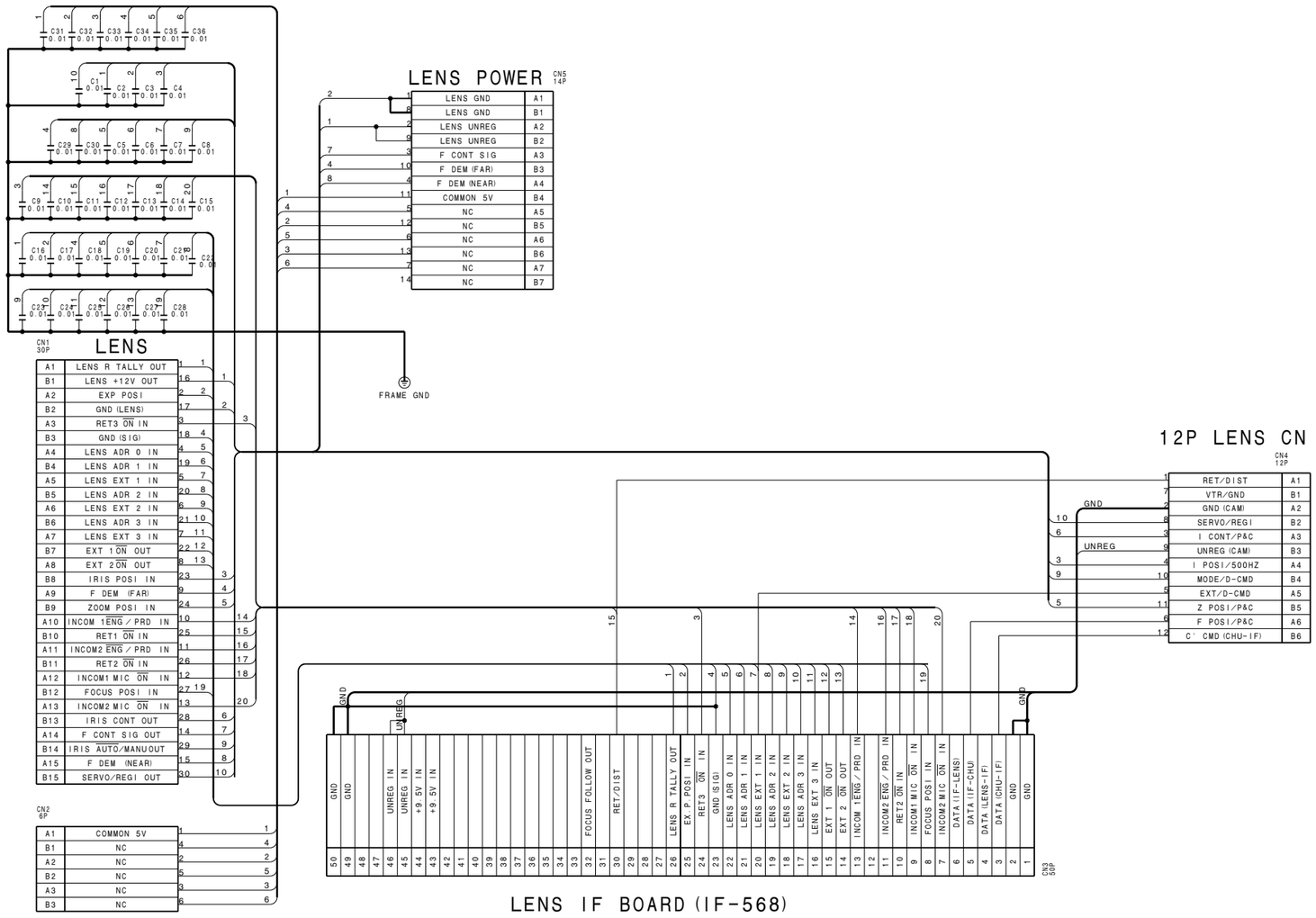
HKCA-700 (UCJ)




## CN-1371

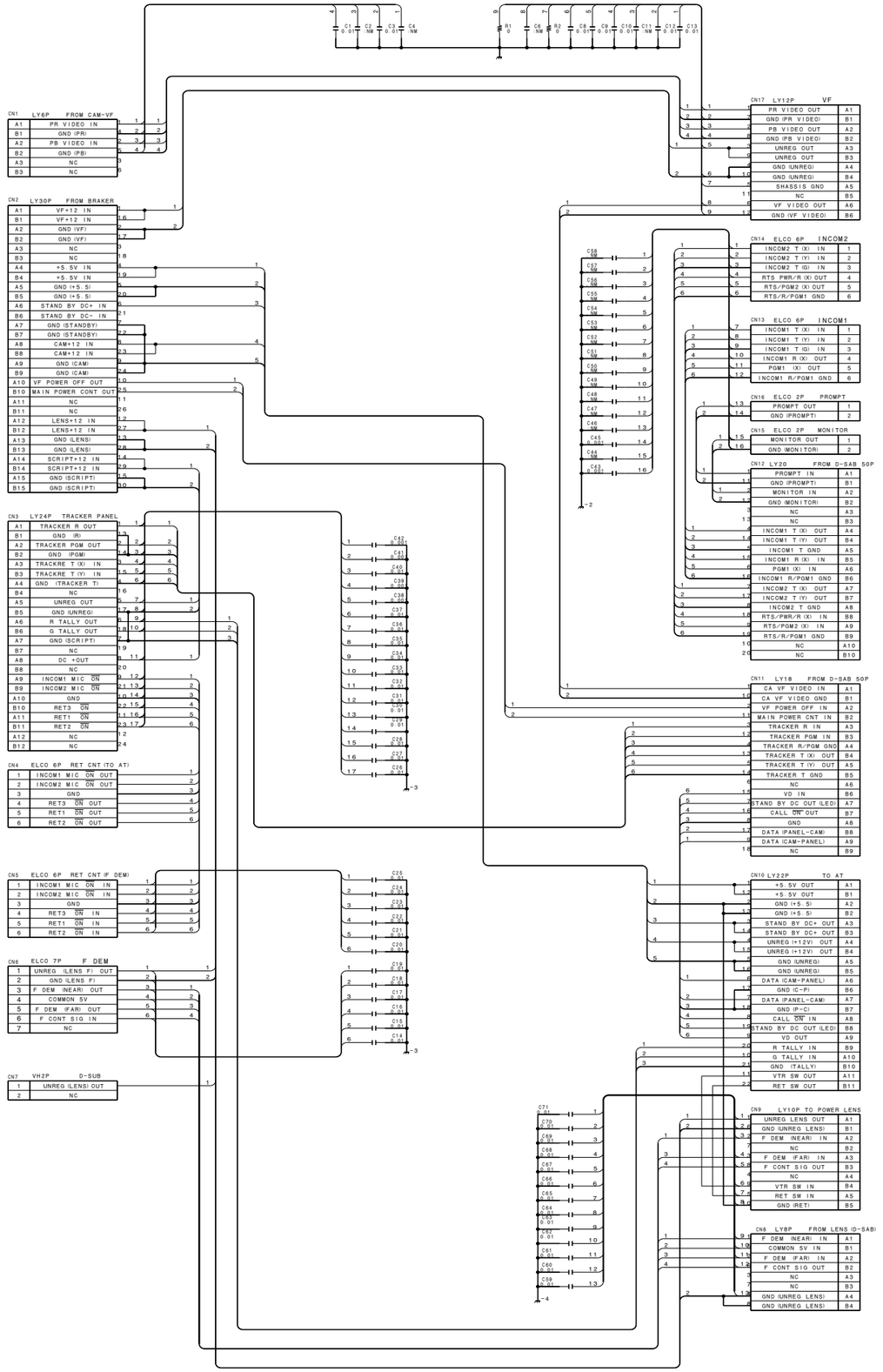
BOARD NO. 1-661-199-11/12
LOT NO. 512-
B-¥HKCA700-CN1371-12

HKCA-700 (UCJ)




**CN-1383**
BOARD NO. 1-661-202-11
LOT NO. 512-
B-¥HKCA700-CN1383-11

HKCA-700 (UCJ)

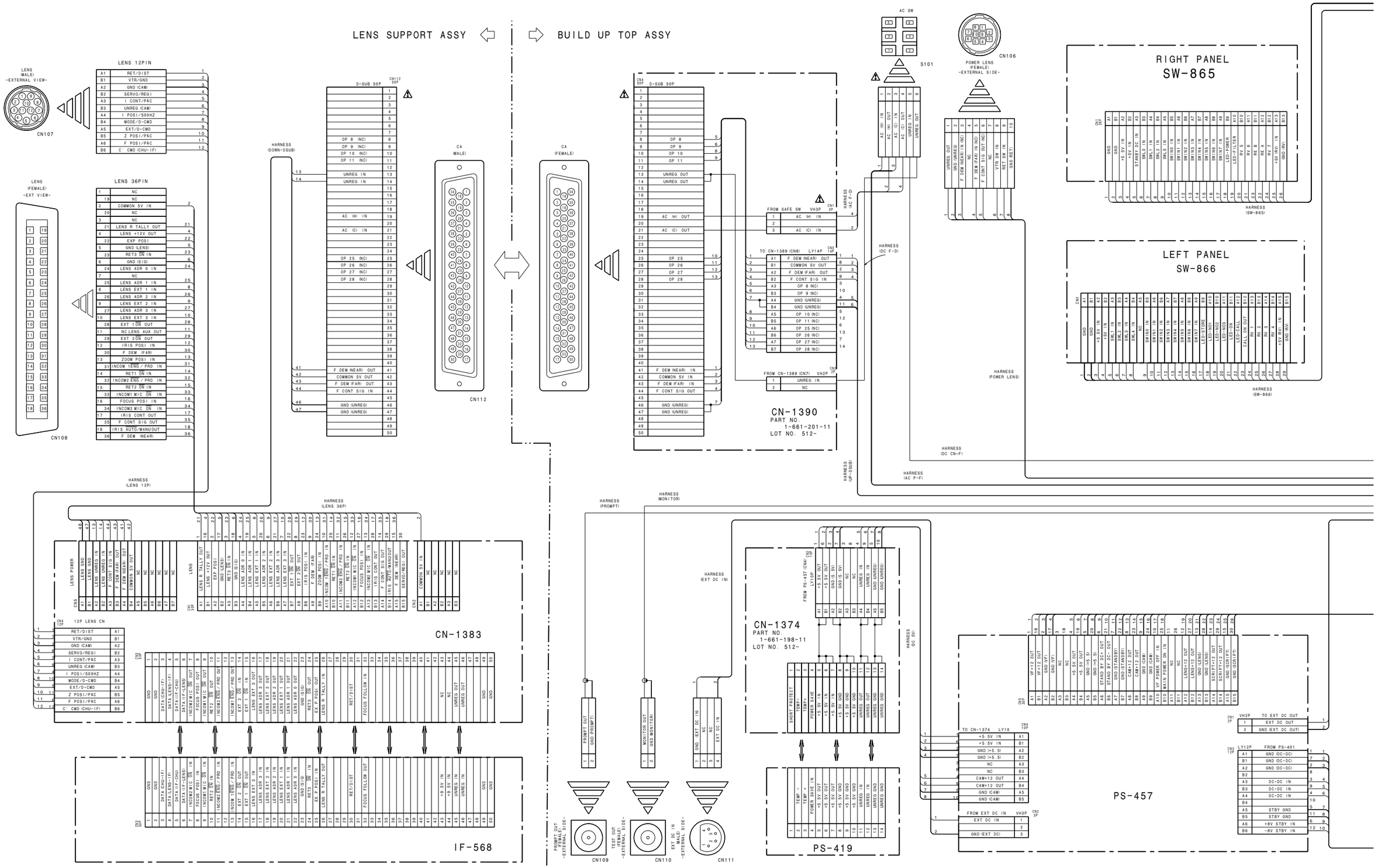



7-10 7-10

## CN-1389

BOARD NO. 1-661-200-11
LOT NO. 512-
B-¥HKCA700-CN1389-11

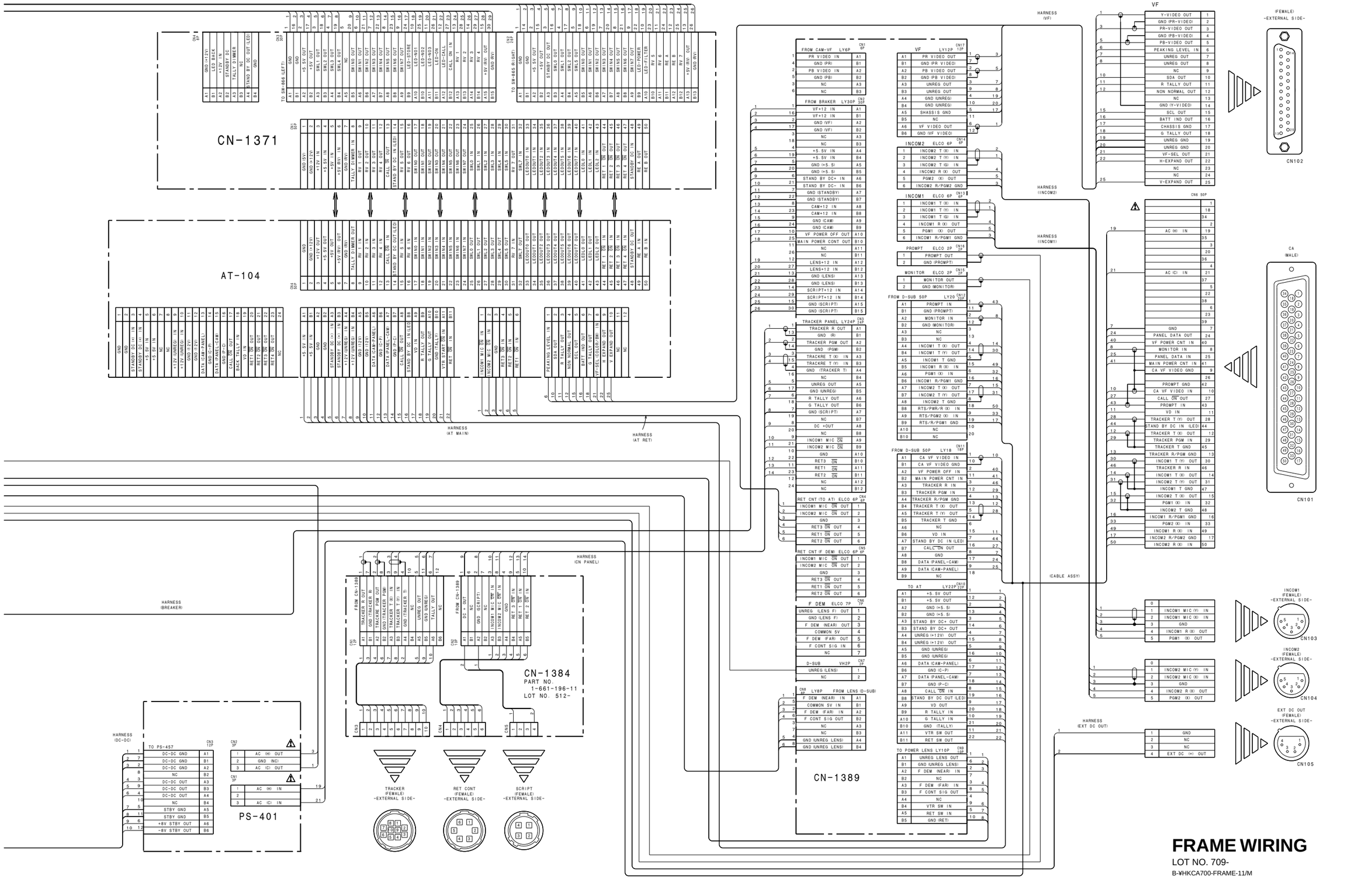
**HKCA-700 (UCJ) : S/N 11001 through 13000**




7-12 (a) 7-12 (a)

HKCA-700

A B C D E F G H

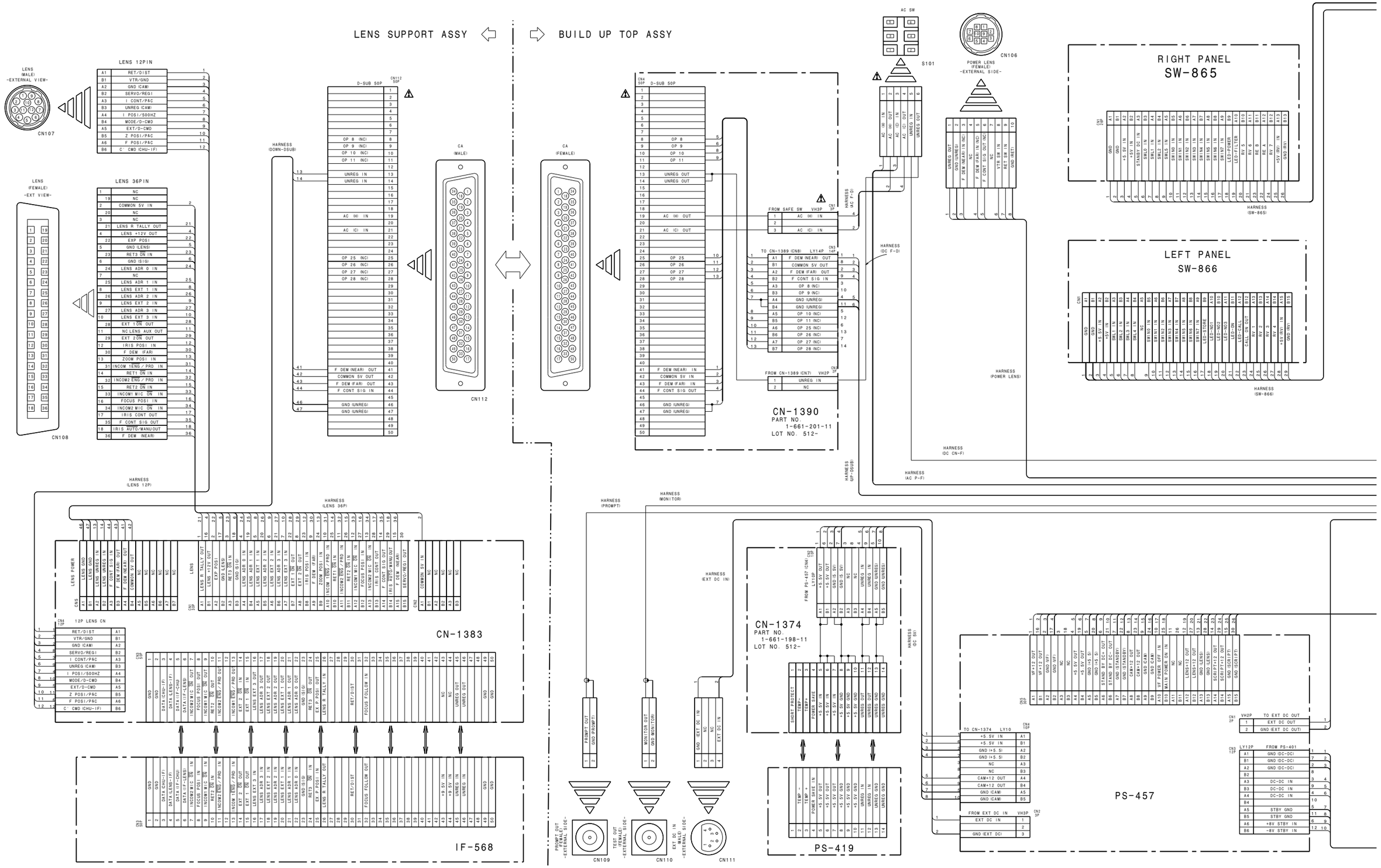


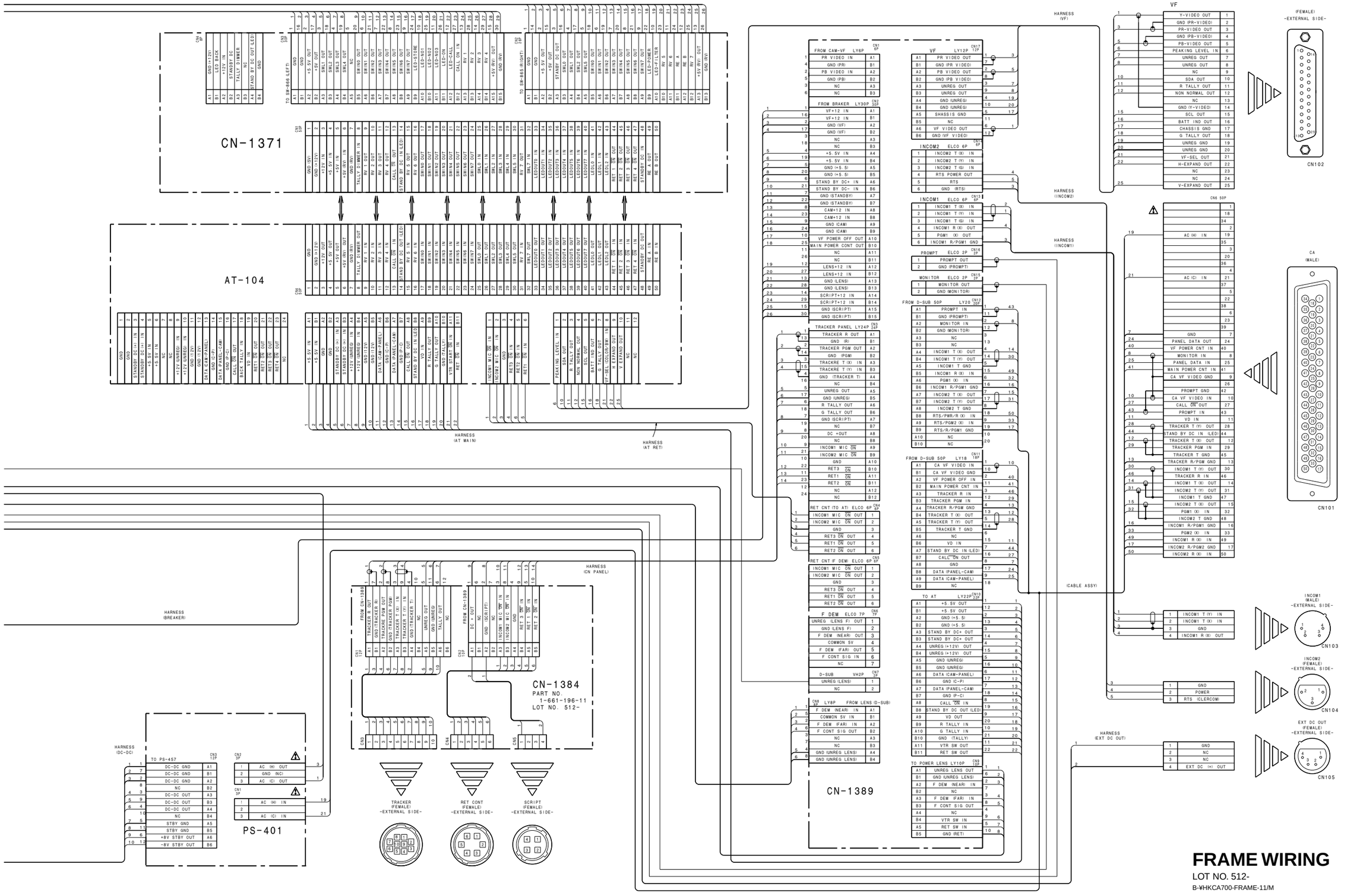

# FRAME WIRING

LOT NO. 709-

B-¥HKCA700-FRAME-11/M

**HKCA-700 (UCJ) : S/N 10001 through 11000, 13001 and Higher**






# FRAME WIRING

LOT NO. 512-

B-¥HKCA700-FRAME-11/M

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Broadcasting & Professional Systems Company

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